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North Park: A Regional Approach to Parks, Recreation, and Trails Planning

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By

Alan J. Luce

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of the requirements for the degree

of

MASTER OF SCIENCE

in

Bioregional Planning
Plan B

Approved:

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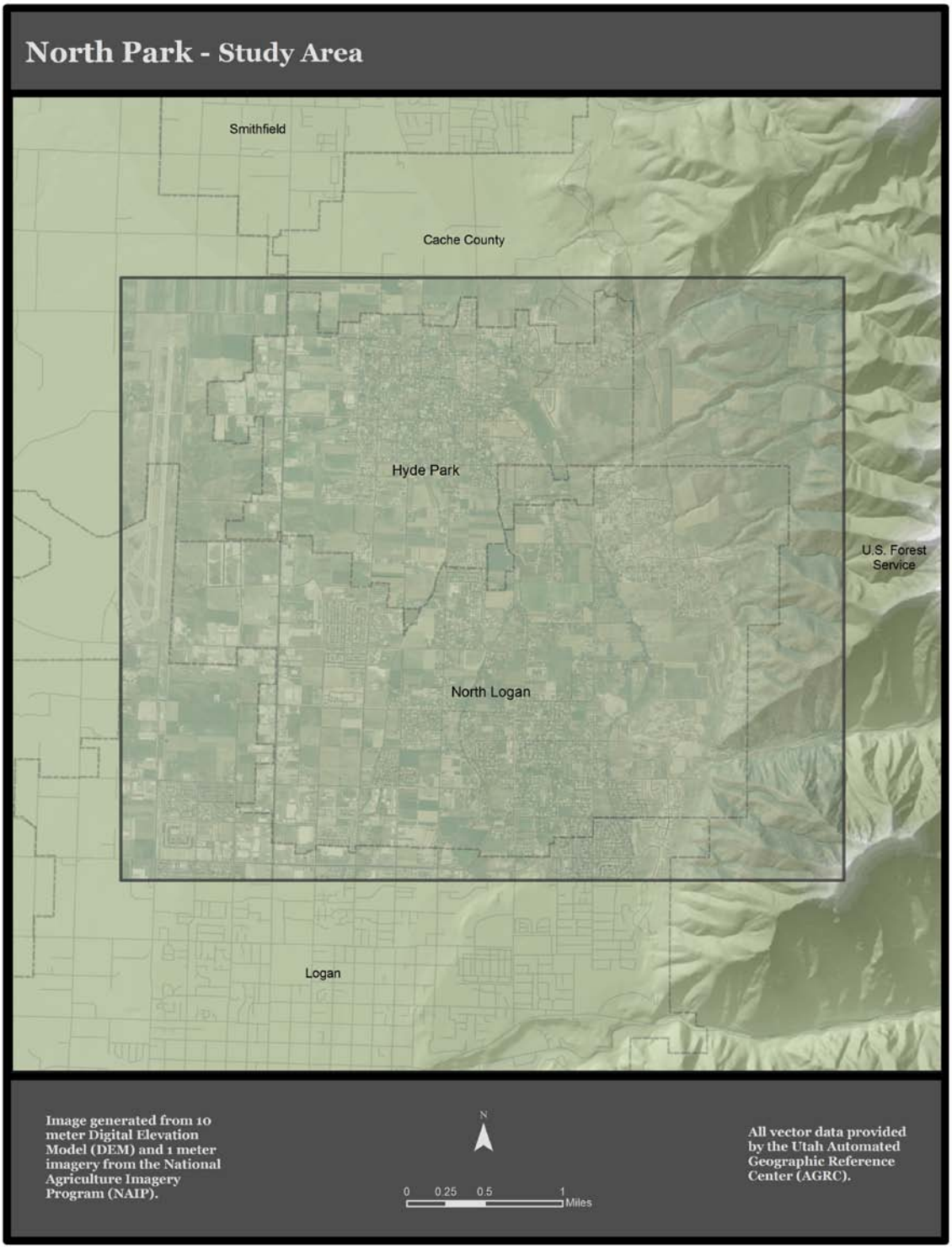

Figure 1: Site Map

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Foreword

Over the past ten years, there have been several landscape studies that have been completed by the graduate students in the Bioregional Planning program in the Department of Environment and Society at Utah State University. These highly comprehensive studies have gradually built upon planning methods that have been developed by former graduate students at Utah State University and the Graduate School of Design at Harvard University (Toth et al., 2005).

A large number of studies have focused on Cache Valley and the surrounding area. While each of the studies has varied in geographic extent, the planning methods and applications have remained constant. The outputs generated through the planning processes have provided local government leaders and stakeholders with multiple options to accommodate the rapid growth throughout the area.

The North Park study utilizes these proven planning methods to focus on three primary activities in two growing communities in Cache Valley. The objectives of this study are: 1) Analyze existing and future community plans of parks, recreation, and trails, 2) identify areas where current plans may be deficient in providing the parks, recreation, and trail needs of the citizens of these communities, 3) generate multiple options for local stakeholders as they relate to parks, recreation, and trails, and 4) provide the necessary implementation tools for this study, along with other regional parks, recreation, and trails studies.

With the multiple options produced through the North Park Study, regional stakeholders will be able to choose the models that best meet their specific needs related to parks, recreation, and trails. Further, these options can be adapted to each community as development patterns, and local planning and zoning measures are updated.

Introduction

Figure 2: North Park Undeveloped Agricultural Property.

Introduction

The North Park study area is mainly focused on the parks, recreation, and trails of two municipalities: North Logan and Hyde Park. These two municipalities have formed several partnerships to provide the police, fire, and other civic needs of the citizens of both communities. Coincidentally, these services have been given a name that combines the names of the two municipalities, North Park. However, this particular study area also includes small portions of land that are currently located in Logan City, Cache County, and the U.S. Forest Service.

North Park is a beautiful area nestled on the east bench of Cache Valley. The majority of the area has remained undeveloped and relatively unchanged for the past 130 years. However, in recent years, the North Park area has experienced a large amount of growth and, with this growth, the existing community resources related to parks, recreation, and trails will need to grow accordingly. Consequently, a large amount of regional planning is needed between North Logan, Hyde Park, and the other governmental entities that make up the study area.

The communities of North Logan and Hyde Park were once two distinct communities (Embry, 2000). However, over the past ten years the populations of both communities, the unincorporated areas, and portions of Logan City have increased by nearly 40%. Thus, the distinct boundaries between the two communities have begun to fade. Unfortunately, as agricultural land is subdivided to accommodate population growth, the acreage of parks, the number of recreation centers, and the length of trails have not increased at the same rate. North Logan, Hyde Park, and the other governmental entities in the area have installed various planning measures to provide parks and trails. Also, there are recreation centers and resources with limited access that have been provided by commercial and religious institutions. However, as population continues to increase exponentially, the cities of North Logan and Hyde Park will need multiple options and methods on how to best accommodate the growing demand on parks, recreation Centers, and trails (Batt et al., 2005).

In order to provide the necessary options for North Logan and Hyde Park, this study analyzes the existing and planned parks, recreation centers, and trails throughout the North Park area using various GIS models. These inventory analyses are then examined for areas where the parks, recreation centers, and trails may be deficient for the surrounding citizens of the community. The final output of the GIS analysis are multiple

"tiered" models. These multi-option models will be used in different alternative futures and plans that can then be used by local civic, church, and commercial entities to provide a large comprehensive network of parks, recreation, and trails that meets the needs of the existing, and future citizens of the North Park area.

Methodology

The methodology utilized in the North Park study was founded upon previous Bioregional planning projects completed by students at Utah State University (Toth et al., 2007). This methodology was integrated with parks and recreation master planning principles developed by the National Recreation and Park Association (NRPA). This methodology is comprised of five major phases. These phases occur in a stepwise approach, however, each phases is interrelated with all other phases, and the overall process is very fluid and cyclical.

Phase one is comprised of the background and overview of the study area. Once the overview is completed, the major concerns and issues are identified. Next, an outline of the proposed options and planning principles is developed that will address the major concerns of the study area.

Phase two is separated into two categories (Figure 3). The first category is an analysis of existing community resources related to parks, recreation, and trails. The second category analyzes future community resource plans of parks, recreation, and trails. The two analyses of this chapter aim to evaluate the resources that currently exist, and what is planned to accommodate the concerns identified in the introduction; namely rapid population growth, and the need for inter-community planning.

Phase three utilizes the analyses created in the previous phase to identify areas of need, or deficiency, within the North Park area. A simple GIS overlay method is used to create a service gradient. This gradient illustrates the locations where the citizens of the community have very limited access to multiple resources of parks, recreation, and trails. These areas of limited access, or service deficiency areas, will be the focal areas for the subsequent phases.

Phase four is also broken down into two interdependent categories (Figure 3). First, multi-tiered assessment models are created for parks, recreation centers, and trails. These assessment models address the concerns identified in the first phase of the study, along with the areas of deficiency identified in the previous phase. Once the assessment models have been created, the multiple tiers are then combined to generate several alternative futures. These assessment models and alternative futures provide the several options needed by local planners.

Phase five presents local planners with implementation measures for the alternative futures. As growth continues in this area, the different assessment models and alternative futures will serve to create multi-option parks, recreation, and trail master plans that focus on offering a high level of access to multiple resources for current and future residents of the North Park study area.

As growth continues, the options and futures will need to be re-assessed. This is why this methodology is ongoing and cyclical.

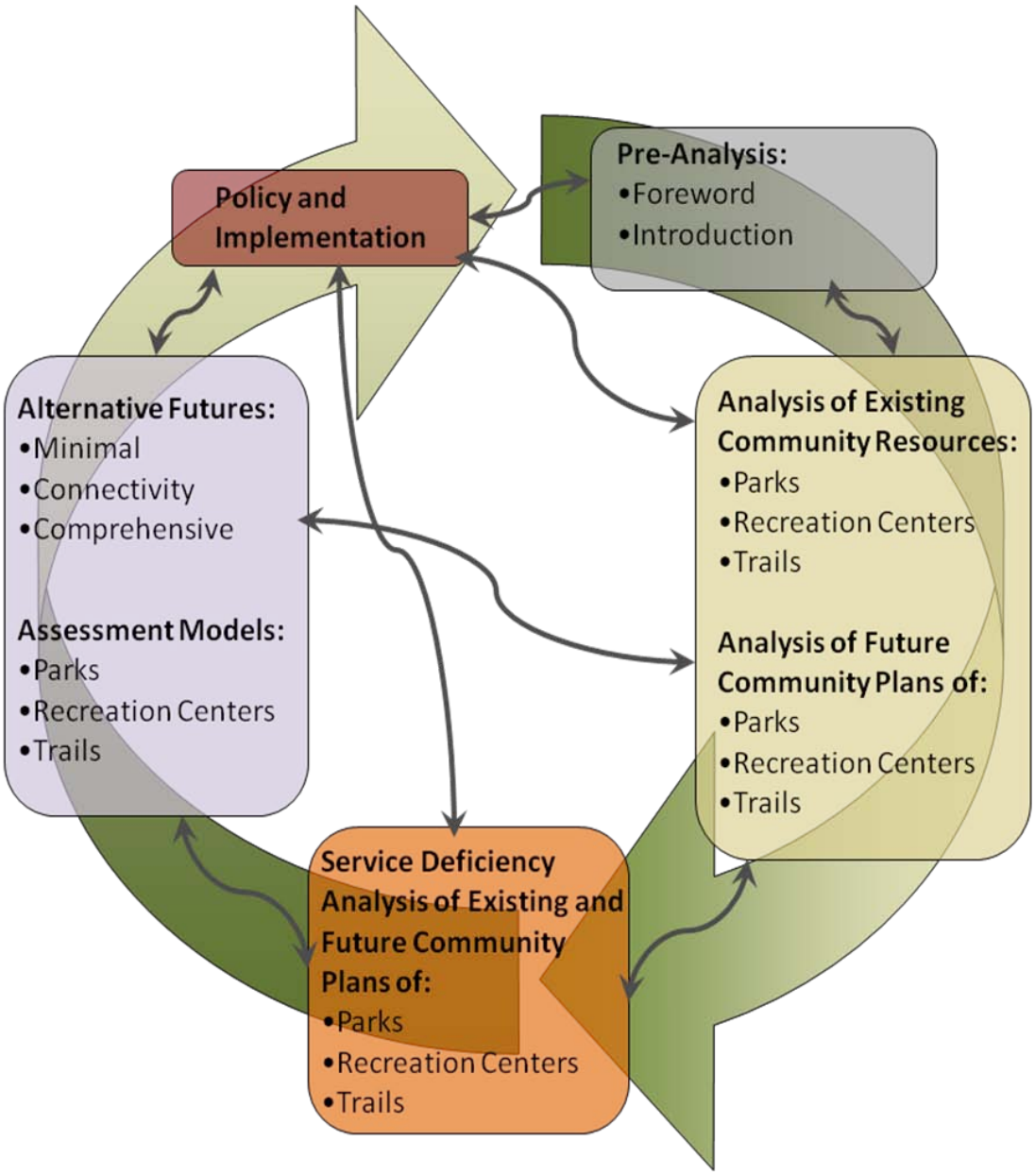

Figure 3: Methodology - Cyclical Analysis Approach.

Analysis of Existing Community Resources

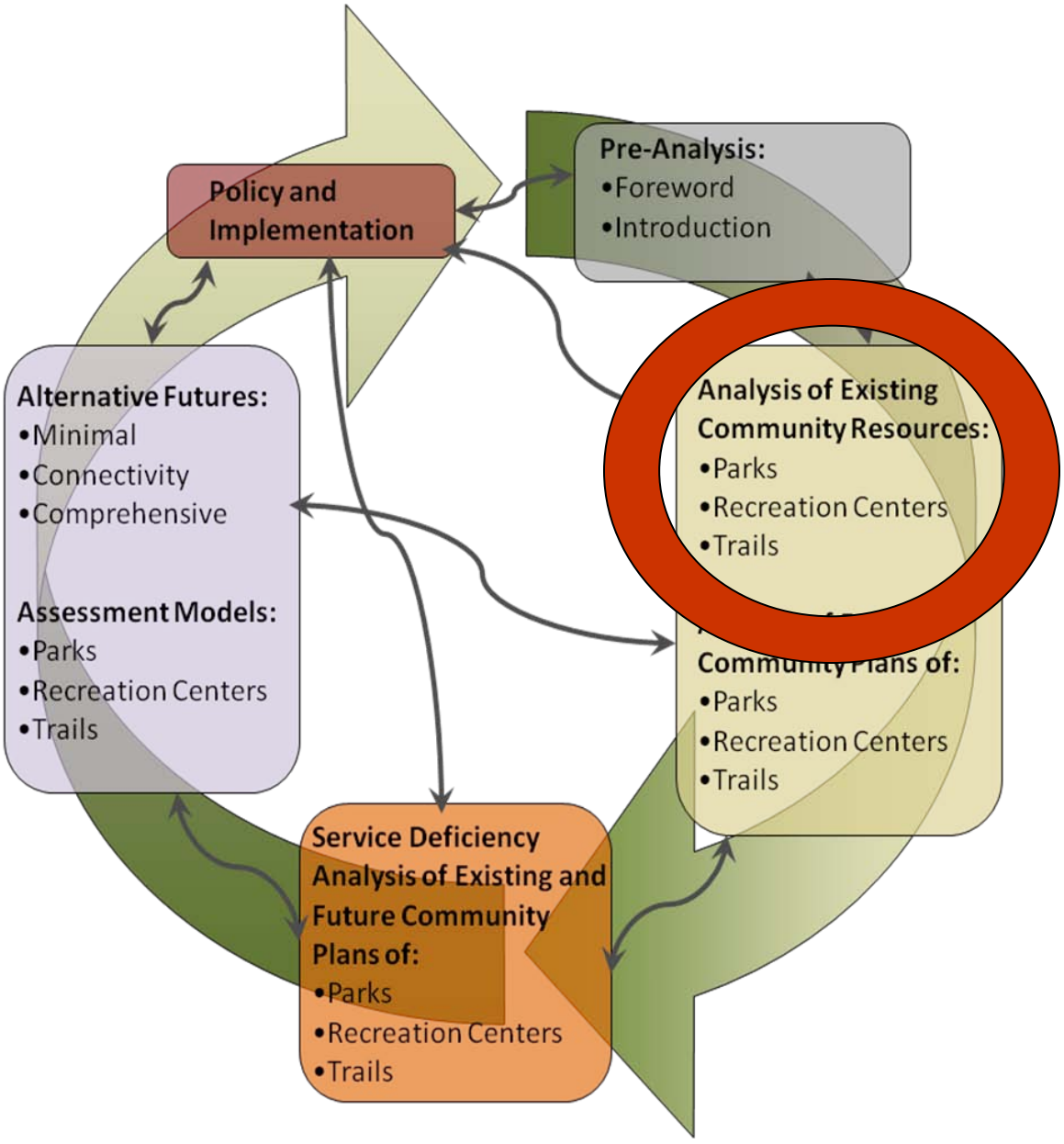

Figure 4: Methodology - Focus on the Analysis of Existing Community Resources.

Analysis of Existing Community Resources - Analysis Overview

The next three sections analyze the existing community resources related to parks, recreation centers, and trails. An inventory of each of these resources has been created and analyzed using various parks and recreation standards. While the National Recreation and Parks Association (NRPA) no longer uses a national standard of "x" number of acres of parkland per 1,000 persons, the NRPA has encouraged each community to develop its own standard, or Levels of Service (LOS), for parks, recreation centers, and trails. These standards are used to plan the respective resources of each community based on the local natural, social, and economic characteristics (Carmi et al., 2003).

The North Park study utilizes various elements of the NRPA standards. However, these standards have been tailored to fit the unique parks and recreation characteristics of the community (Table 1). Some of the unique characteristics of the North Park study area include a vast supply of natural corridors, proximity to U.S. Forest Service property, a large amount of undeveloped farmland, existing parklands managed by local churches and schools, parklands developed by local home owners associations, and park and recreation resources managed by the commercial sector. These characteristics were the primary factors in determining the appropriate standard categories of parks, recreation centers, and trails throughout the North Park area.

Once the different categories of parks, recreation centers, and trails were established, the appropriate service area, or buffer, for each category was created (Table 1). These service areas illustrate the population vicinity that will be able to make use of the parks, recreation centers, and trails. Each resource category provides a specific need to the surrounding population. While some of the resources, such as a "Community Park," may be far reaching, other resources, such as trails, should be located in close proximity to the surrounding population. Consequently, each community will most likely develop a large number of trails that have a relatively small service area, while there may be only one "Community Park" (Boone-Heinonen, 2010).

The tables which follow contain the unique category and service areas for the parks, recreation centers, and trails that have been established for the North Park area:

Table 1: Service Areas - Categories, Descriptions, and Service Distances for Parks, Recreation Centers, and Trails.

Parks:

Category of Parkland	Approximate Size of Parkland	Service Area (Buffer Distance)
Mini-Park	1 acre or less	1/8 mile
Pocket Park	2-5 acres	1/4 mile
Neighborhood Park	6-15 acres	1/2 mile
Community Park	20+ acres	1 mile
Critical Land Parcels	Undefined	1/4 mile

Recreation Centers:

Category of Recreation Center	Services Provided	Service Area (Buffer Distance)
Private Recreation Center (Require Fees)	Sports, Fitness	1/2 mile
Quasi-public Recreation Center (Schools)	Gymnasium, Cultural Center	1/2 mile
Church-owned Recreation Facilities (Restricted Use)	Gymnasium, Cultural Center	1/4 mile
Public Recreation Centers	Sports, Fitness, Leisure, Cultural Classes...etc.	2 miles

Trails:

Type of Trail /(User)	Surface/ (Width)	Service Area (Buffer Distance)
Paved Path (Pedestrian Sidewalk)	Concrete or Asphalt Path (3-5 ft. wide)	1/4 mile
Gravel Trail (Pedestrian)	Gravel Material (3-5ft. wide)	1/4 mile
Multi-use Paved Path (Pedestrian or Bicycle)	Concrete or Asphalt Path (6-10 ft. wide)	1/4 mile
Multi-use Gravel Trail (Pedestrian, Bicycle, or Horse)	Gravel Material (6-10 ft. wide)	1/4 mile

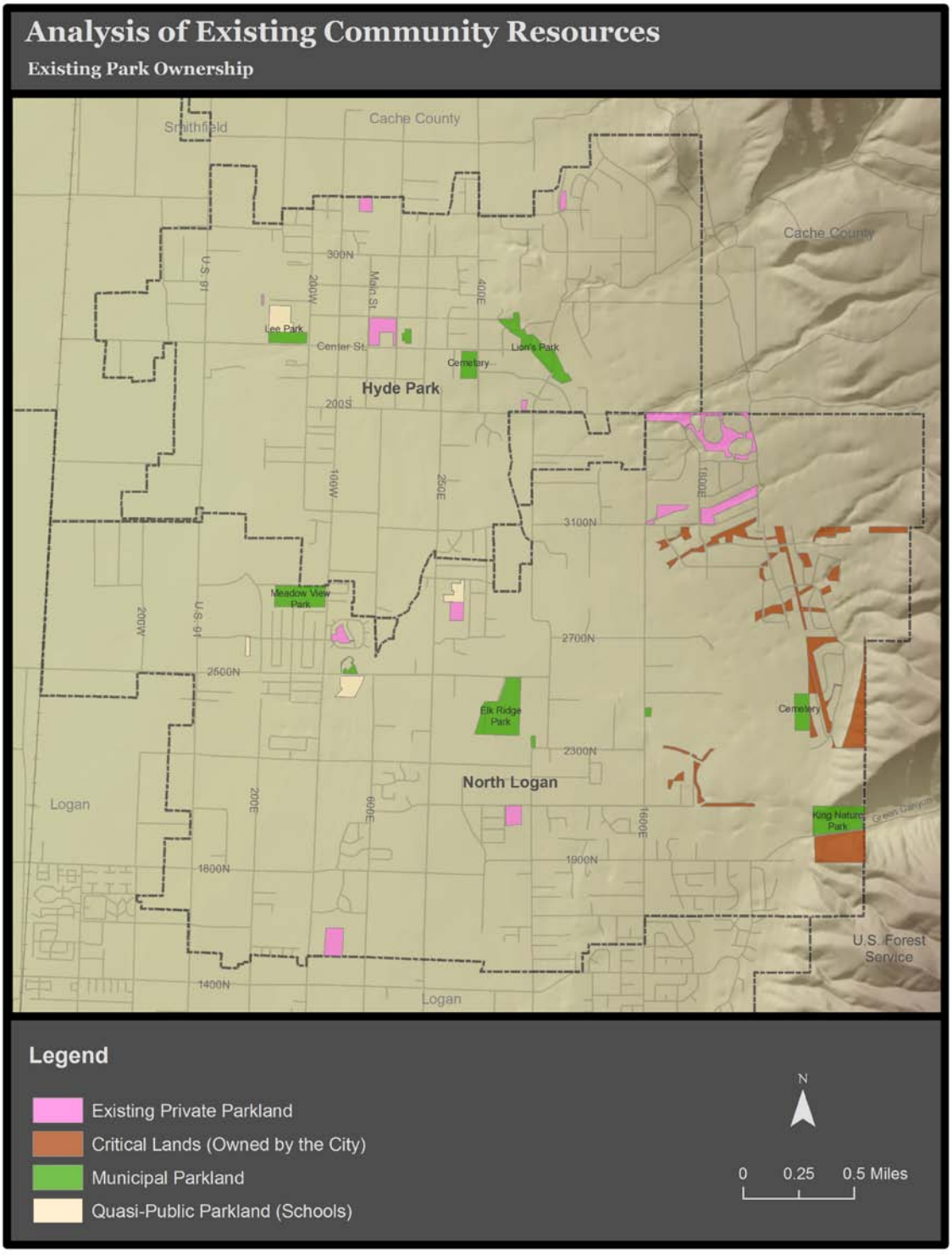

Figure 5: Land Ownership

Analysis of Existing Community Resources - Parks

Mini-Parks: There are a few mini-parks that are owned and operated by the local municipalities; however, the majority of the mini-parks throughout the North Park area are developed and maintained by private home owners associations (HOA). While some of the HOA's may not be open to the general public, they still provide a valuable resource to the residents in close proximity to the park. In the North Park Study area there are several mini-parks that dot the landscape. The number of these parks has been increasing rapidly in recent years, and this number is expected to continue growing.

Pocket Parks: The North Park Study area contains a wide variety of pocket parks that are owned and operated by both public and private entities. The majority of parkland owned and operated by Cache County School District falls under the pocket park category. These parks are open to the general public after school hours; however, they do contain various restrictions on the types of activities that may take place. Similarly, the Church of Jesus Christ of Latter-Day Saints (LDS Church), has constructed a number of pocket parks located adjacent to their meetinghouses. The pocket parks owned by the LDS Church are used by the general public for a number of leisure activities and community events, but they do contain a number of restrictions related to public sports and usage (Batt et al., 2005). The remainder of the pocket parks in the North Park Study area are either maintained by the local municipalities or private HOA's. These pocket parks are used extensively in the area and will only continue to increase as more schools, churches, and private HOA's are developed.

Neighborhood Parks: The vast majority of neighborhood parks in the North Park area are owned and maintained by the local municipalities. Each of the neighborhood parks provides a different form of recreation. For example, King Nature Park is a quiet nature park that provides the citizens of the community with a number of walking paths and picnic areas. Conversely, the Meadow View Park offers a number of sports fields. While each park offers varied recreation opportunities, they each make available large open areas that are essential in providing the local sports, community events, and general recreation programs of each citizen. These parklands are relatively difficult to acquire and maintain, due to the excessive costs of real property. Therefore, it is imperative that local municipalities plan for and acquire larger properties that may be developed as future neighborhood parks.

Community Parks: Currently, Elk Ridge Park is the only community park in the North Park Study area. This 24 acre park is located in the geographic center of North Logan

City. This park is able to provide a large number of recreation opportunities related to leisure, fitness, sports, and general recreation. There are also community events held at this park that host over 50,000 individuals. These events and recreation programs not only aid in the fitness and physical health of the local population, they also provide an increased "sense of place" and "quality of life" in each community. In addition, the economy of the area reaps the benefits of the associated recreation events (Carmi et al., 2003). Similar to the neighborhood parks, local municipalities should invest and pursue opportunities to install and improve parklands to the level of a community park.

Critical Lands: These areas provide for the public health, welfare, and safety of the local community. In the North Park study area, several of the drainage corridors, steep slopes, and areas that are susceptible to flooding have been purchased by the local municipalities. The overall benefits of the critical lands are vital to the entire community. However, from a parks and recreation standpoint, they provide a similar resource to a pocket park. These areas need to be planned in a manner that reduces development in natural hazard areas, while at the same time still providing access for recreation and leisure usage.

Figure 6: Examples of Existing Parks.

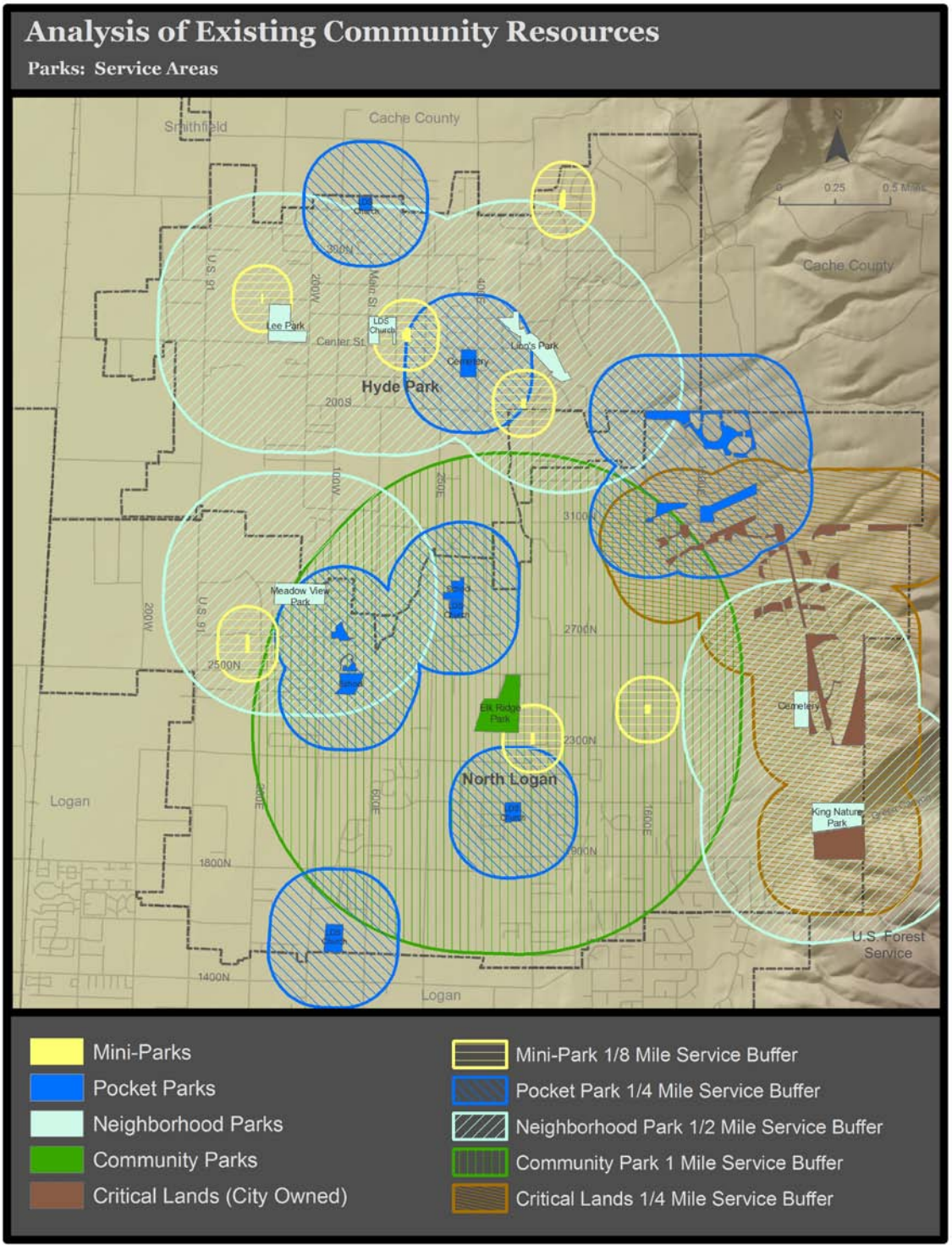

Figure 7: Parks - Analysis of Existing Community Resources.

Analysis of Existing Community Resources - Recreation Centers

Private Recreation Center: The existing private recreation centers include the Sports Academy, the Rock Haus, the Fun Park, and the Eccles Ice Center. These recreation centers all require a fee and provide a minimal number of recreation and fitness activities. The Eccles Ice Center is very unique in this study area in that it is capable of hosting skating activities along with hardwood flooring for other sports. Each of these recreation centers provide a needed recreation resource to the surrounding community. These recreation centers will continue to spread to the north as commercial development occurs through Hyde Park City.

Quasi-public Recreation Center (Schools): There are four schools in the North Park Study area and each contains a large gymnasium. These gyms not only provide recreation opportunities to the students during school hours, they also provide a location for each municipality to conduct sports programs for local citizens. This partnership between the schools and municipalities is vital to the recreation development of the citizens in the area. These gymnasiums also provide a large center for community, recreational, and cultural events. As new school facilities are constructed in order to accommodate the rapidly growing population, the local school district should be mindful of the recreation needs of the community.

Church-owned Recreation Facilities (Restricted Use): The LDS meetinghouses in the North Park area are equipped with large "cultural halls" (gymnasiums). These gymnasiums are used extensively for community events and education, civic meetings, scouting, and church-sponsored sports and recreation. The usage and scheduling of the cultural halls is primarily designed for church-related meetings, events, and recreation. However, all of the activities, meetings, and recreation opportunities are open to both members of the LDS Church and visitors alike. The LDS meetinghouses provide a valuable recreation component to the community that will continue to expand as the population grows (Bollwinkel et al., 2005).

Public Recreation Centers: There are currently no public recreation centers in the North Park study area. However, the municipalities to the north (Smithfield), and south (Logan), each contain a public recreation center. These recreation centers provide hundreds of recreation programs, fitness classes, and education opportunities to the local communities. While each recreation center requires a monthly membership fee,

the costs are significantly reduced due to funding received through the local municipalities, and county government. The usage of these recreation centers is currently available to the residents in the North Park area. Nevertheless, as population increases in the area, the local government entities will need to explore options of providing a local public recreation center, as this can provide a substantial increase in the quality of life to a given area.

Private Recreation Center
© sportsacademy.com

Elementary School
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LDS Church
© lds.org

Ice Center

Figure 8: Examples of Existing Recreation Centers.

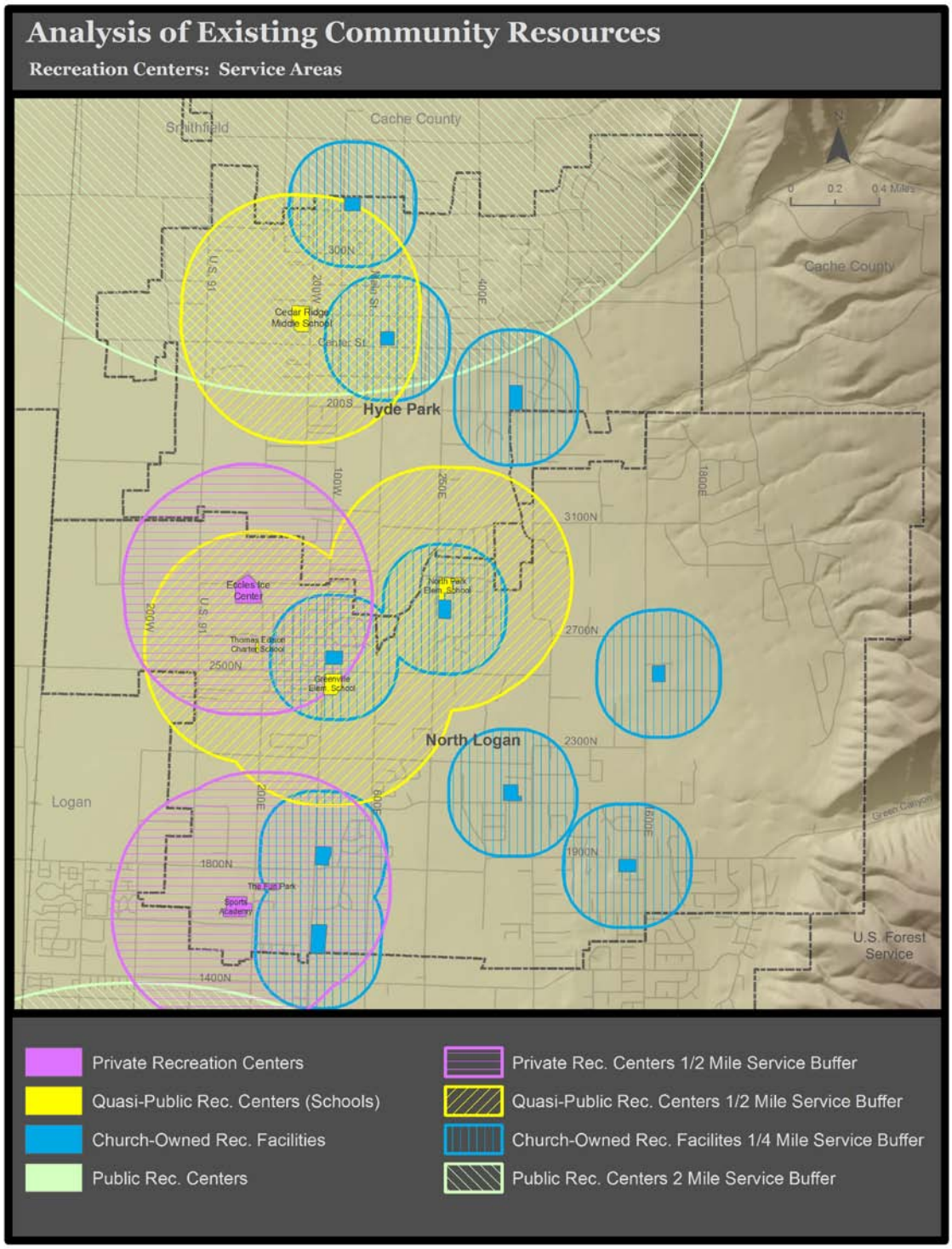


Figure 9: Recreation Centers - Analysis of Existing Community Resources.

Analysis of Existing Community Resources - Trails

Paved Path (Pedestrian Sidewalk): There is a local initiative to create a "walkable community of parks, trails, and community recreation" (Batt et al., 2005). A key component of this initiative is to create "safe routes to schools." The local municipalities and Cache County School District have been the key entities involved in this initiative, which have been instrumental in the installation of several sidewalks throughout the North Park Study area, and they will continue to be installed over the next several years. A number of these sidewalks have been installed along parkland and existing trails, thus improving access, connectivity, and safety for the local pedestrian traffic. While the vast majority of roads throughout the study area contain sidewalks, only those sidewalks that are part of a larger network of trails and safe routes have been symbolized. Future development plans should be designed to connect to the existing major sidewalks and safe routes throughout the North Park study area.

Gravel Trail (Pedestrian): King Nature Park is located at the mouth of Green Canyon and adjacent to several gravel trails on Forest Service property. However, King Nature Park is designed to be a very peaceful leisure park. As a result, there are several rules that limit the type of traffic to pedestrian access only. Currently, the only "Gravel Trails" that exist in the North Park study area are located within the King Nature Park. While these trails are very limiting to the types of traffic, they have a unique purpose within the community, and they will likely be located in various other parklands that are proposed along the east bench of the study area.

Multi-use Paved Path: The larger multi-use paths have been installed in various parks throughout the study area and are used extensively throughout several months of the year. Coincidentally, the local roadway cross-sections now include a provision for the 7-10 ft. wide multi-use paved path. These multi-use paths provide vital access to the local pedestrian community along with other modes of transportation, such as bicycle traffic. There are two examples of how important these paths are to the linkage of several types of land use in the North Park area. First, there is currently an exterior multi-use path in Lion's Park that now extends onto the roadway and ties into the local residential subdivisions and the LDS Church. Second, there is a major arterial (200 E.) that is being installed in segments. This roadway will connect five separate municipalities. This roadway includes a multi-use path that connects the surrounding community to the local commercial sector, schools, churches, parks, and recreation centers. This path will

form a vital connection in creating a "walkable community of parks, trails, and community recreation."

Multi-Use Gravel Trail: There is a high potential for a number of multi-use gravel trails throughout the North Park area. The Bonneville Shoreline Trail (BST), which is a non-motorized trail, will serve as a north-south "backbone" for several other trails. The BST will one day extend along the bench from the Utah-Idaho border to Nephi, UT (280 miles). A few portions of the BST have been installed in North Logan, including the Centennial Trail Branch. There are also three canals equipped with restricted maintenance paths that run south to north through the North Park study area. While only a few portions of these maintenance paths are open to public access, there is a large potential for future access along these existing multi-use gravel trails. These multi-use gravel trails are used very extensively in the North Park study area. As such, local municipalities should pursue opportunities to plan for and purchase local easements and trail rights-of-way.

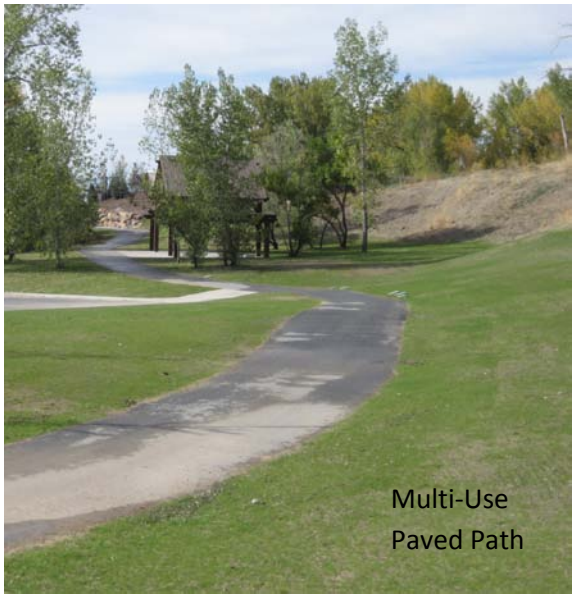


Figure 10: Examples of Existing Trails.

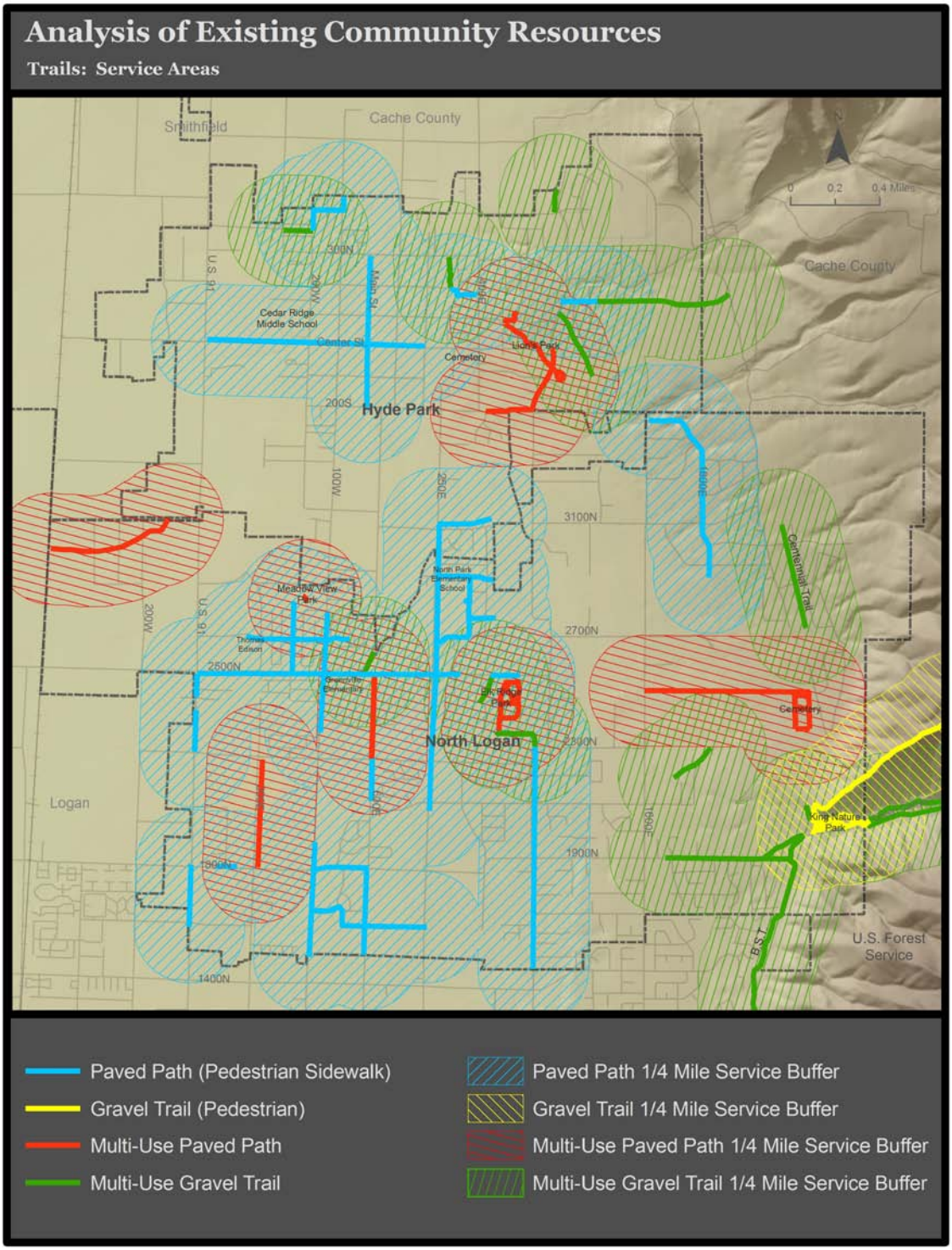


Figure 11: Trails - Analysis of Existing Community Resources.

Analysis of Future Community Resource Plans

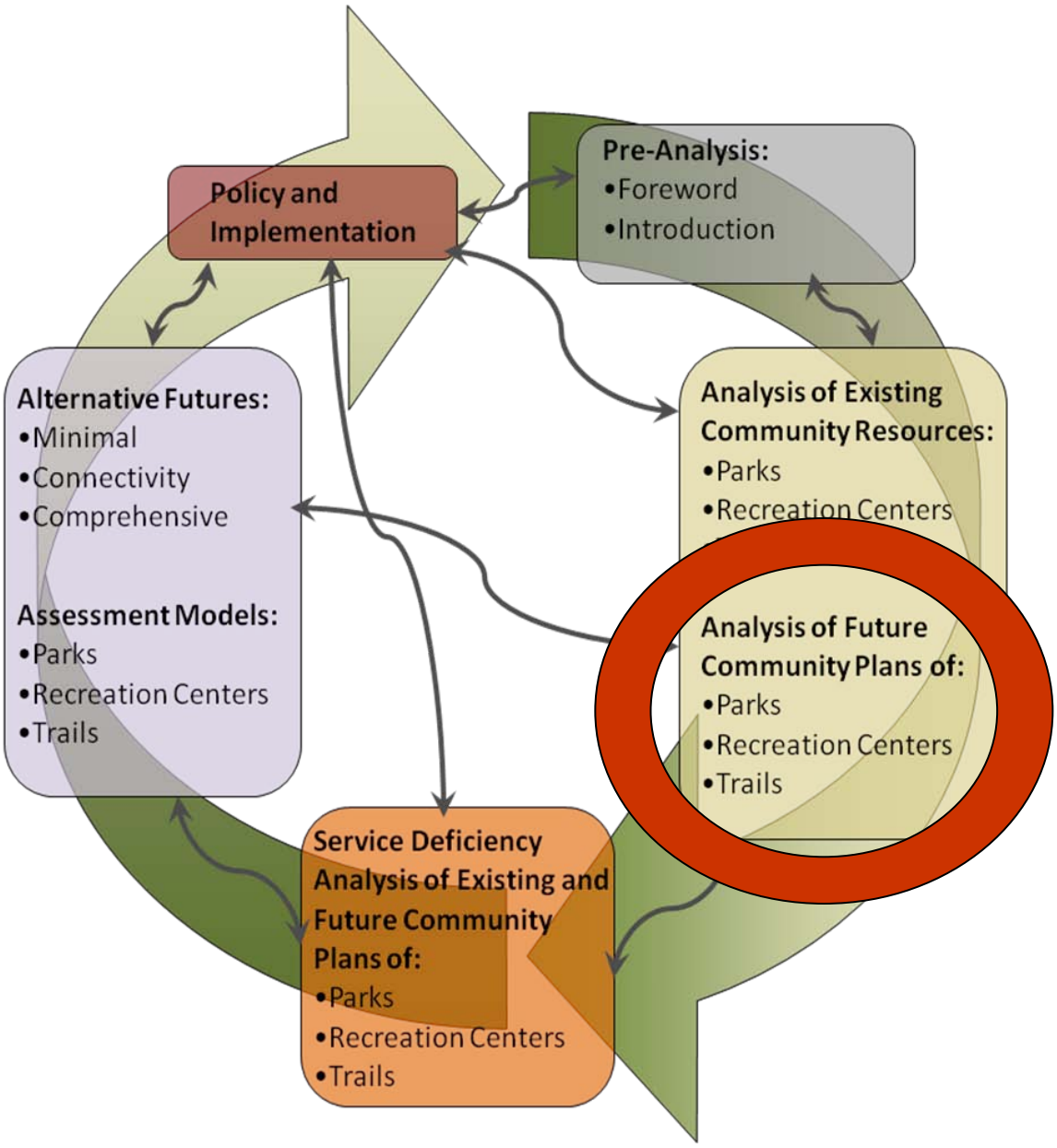


Figure 12: Methodology - Focus on the Analysis of Future (Planned) Community Resources.

Analysis of Future Community Resource Plans - Analysis Overview

This analysis focuses on future community plans related to parks, recreation centers, and trails. Future plans used in this analysis include data from the parks and recreation master plans of each community, along with future land use policies, private and commercial development plans, and church and school proposed buildings and grounds.

The same methods that were used to analyze the existing community parks, recreation centers, and trails will be used in this chapter: 1) An inventory is created of all of the future community plans related to parks, recreation centers, and trails; 2) the inventory of parks, recreation centers, and trails is categorized based on the NRPA standards that have been modified to better suit the North Park study; and 3) each category of parks, recreation centers, and trails is analyzed using the service areas (buffers) utilized in the previous chapter. These unique categories, along with the respective service areas (buffers) used to analyze the existing and future plans of community resources are included in Table 1.

Figure 13: Future (Planned) Parkland.

Analysis of Future Community Resource Plans - Parks

Mini-Parks: There are only two mini-parks that exist in all of the future community plans related to parks. However, these parks are usually planned and designed during the subdivision process. Each community has different methods of subdividing property whereby a developer may acquire an extra number of lots in a specific zone by providing a percentage of open space within the subdivision. This provision is commonly referred to as a "density bonus." These mini-parks are then maintained by an HOA or municipality. These provisions should be able to provide adequate access to park resources for the citizens of the community as development occurs.

Pocket Parks: There are nine future pocket parks that are planned throughout the North Park study area**.** A few of these parks are currently being designed and installed. While not every park will actually be installed in the future, the communities have made efforts to acquire these parcels for future use. Similar to the existing pocket parks, the majority of the planned pocket parks will be maintained and operated by the local municipalities, local school districts, and private HOA's.

Neighborhood Parks: There are five future neighborhood parks that are planned for the North Park study area. These parks are a vital component to a number of the recreation programs provided by each municipality. As such, each community has made significant efforts to purchase property that will accommodate the future sports and recreation needs. In addition, a few of the existing parks that were discussed in the previous chapter will be expanded to the larger category of community park.

Community Parks: There are three planned community parks within North Logan City. They are an expansion of former neighborhood parks. The expansion of parks to the larger category, when possible, is necessary to provide the larger community parks. As discussed in the previous chapter, these community parks are extremely important in providing the large community events and future recreation needs of the citizens of each community. Future plans will need to be made to provide a community park within Hyde Park City.

Critical Lands: There are only a limited number of properties that have been acquired as future critical lands for the North Park study area. However, this category of parkland is similar to the mini-parks discussed above. A developer often is awarded a "density bonus" by simply eliminating the development, or construction of buildings, throughout

these vital areas. Additionally, these lands can be maintained through restrictive easements on existing property. By so doing, the developers, along with the municipality, ensure the public health, welfare, and safety of the surrounding residents.

Figure 14: Development Along East Bench.

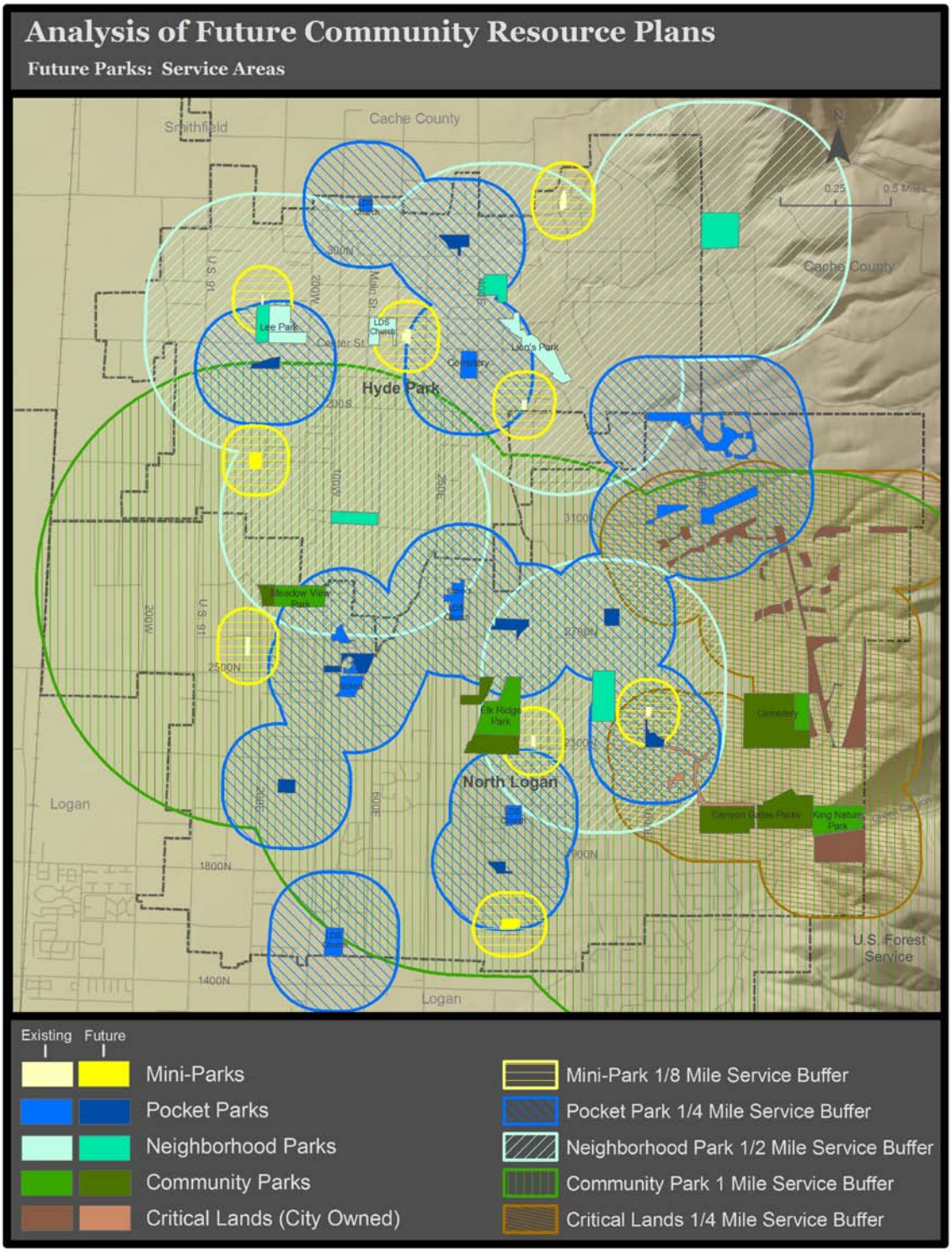


Figure 15: Future Parks - Analysis of Future (Planned) Community Resources.

Analysis of Future Community Resource Plans - Recreation Centers

Private Recreation Center: This category of recreation center is difficult to plan for at the community level because it is highly dependent upon future commercial development. There are currently no private recreation centers that are planned for the North Park study area. However, there is a large amount of property in each municipality that will be converted from agriculture to commercial over the next 30 years. Local planners should look to encourage commercial recreation centers to develop in these zones, as they can aid in the overall health and wellness of the citizens of the community.

Quasi-public Recreation Center (Schools): There is only one public elementary school that is planned for the North Park study area, which will be located on the north end of Hyde Park. This future elementary school will not only provide a location for local recreation opportunities, but there will also be a local pocket park that will be developed with the school. In the past there has been discussion of another high school being developed in the North Park area. Undoubtedly, there will be a high school in the area, but this may not take place for 20-30 years. As these schools are developed, the local municipalities will continue to partner with the school district to provide the recreation needs of the North Park area.

Church-owned Recreation Facilities (Restricted Use): There are two LDS meetinghouses that are planned in the North Park Study area. These two churches will provide recreation opportunities to the residents in close proximity (Bollwinkel et al., 2005). While it is difficult to access where future LDS churches will be located, these meetinghouses are generally planned and developed as the population of the community continues to increase and as development spreads across the local agricultural lands. This pattern has continued since the first settlers arrived in the region, and it is safe to assume that this pattern will continue as population grows in the North Park area.

Public Recreation Centers: The future plans of recreation centers do not include any provisions for additional public recreation centers. The majority of these plans still rely on the two adjacent municipalities to the north (Smithfield), and south (Logan), for their public recreation centers. As the population continues to increase there will be need for a public recreation center in the North Park area. One of the possibilities surrounds the local ice arena, which may be able to expand to include all of the facilities commonly

associated with a public recreation center. Additionally, if a future high school is constructed in the area, there is a possibility that a public recreation center would be constructed adjacent to the school.

Figure 16: Undeveloped Agricultural Land.

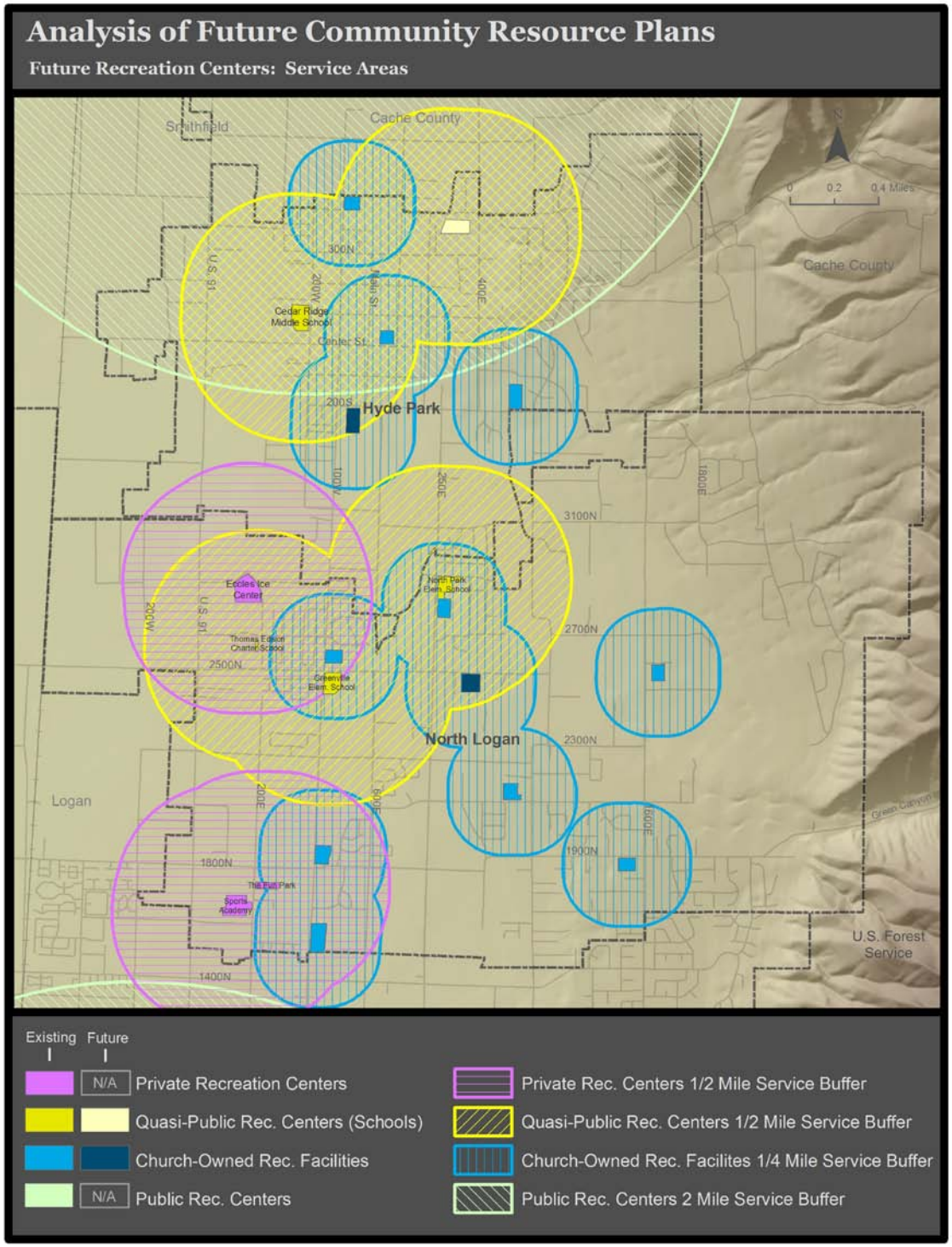


Figure 17: Future Recreation Centers - Analysis of Future (Planned) Community Resources.

Analysis of Future Community Resource Plans - Trails

Paved Path (Pedestrian Sidewalk): The future paved paths throughout the North Park study area are highly dependent upon the efforts of local municipalities and the Cache County School District. Each municipality currently has a transportation master plan. According to these master plans, all of the future roads will be installed with a sidewalk. There are several roads that were established and improved in the early days of each community. The majority of these roads were initially constructed as an asphalt road with gravel shoulders and no sidewalk. However, as each City works with the local school districts, these roads are improved to local standards to provide sidewalks and "safe routes to schools," along with improved access and connectivity to local residents (Cromley et al., 2008).

Gravel Trail (Pedestrian): There currently are few gravel trails, limited to pedestrian access, that are planned in the North Park study area. The majority of these trails are currently located in King Nature Park. These trails are very unique and are mainly planned in areas of restricted use, such as a nature park, or in areas of limited access. These areas of limited access may occur along the benches in areas where motorized vehicles, bikes, and horses, will not have future access. While there may not be a large amount of future gravel trails in the area, these trails are still very important to particular leisure areas, along with the residents of the North Park study area.

Multi-use Paved Path: There are a number of longer multi-use paved paths that are planned for the North Park study area. These paths will be located within existing parks and along major roadways, and provide safe access to commercial, residential, and recreation areas. Some of the future multi-use paved paths will be converted from multi-use gravel paths as cities receive a sufficient amount of funding. While both the gravel and paved paths are essential to each community, the paved paths tend to replace the gravel trails as each community transitions from a highly rural community to an urban community.

Multi-use Gravel Trail: As discussed in the previous chapter, there is a very high potential for multi-use gravel trails in the North Park area. The Bonneville Shoreline Trail (BST) and local canal trails will serve as north-south backbones (Figure 18) for all other trails throughout the city (Bear River Association of Governments et al., 2002). While the BST will be installed as development occurs over several years, the canal trails

already exist as maintenance easements for the local canal companies. However, only small segments of these canal trails are open to the public. Each community has made efforts to acquire easements and real property along these canal trails, and they will need to continue to search for ways to obtain access to these trails that will serve as primary components to a highly connected and "walkable community of parks and trails" (Batt et al., 2005).

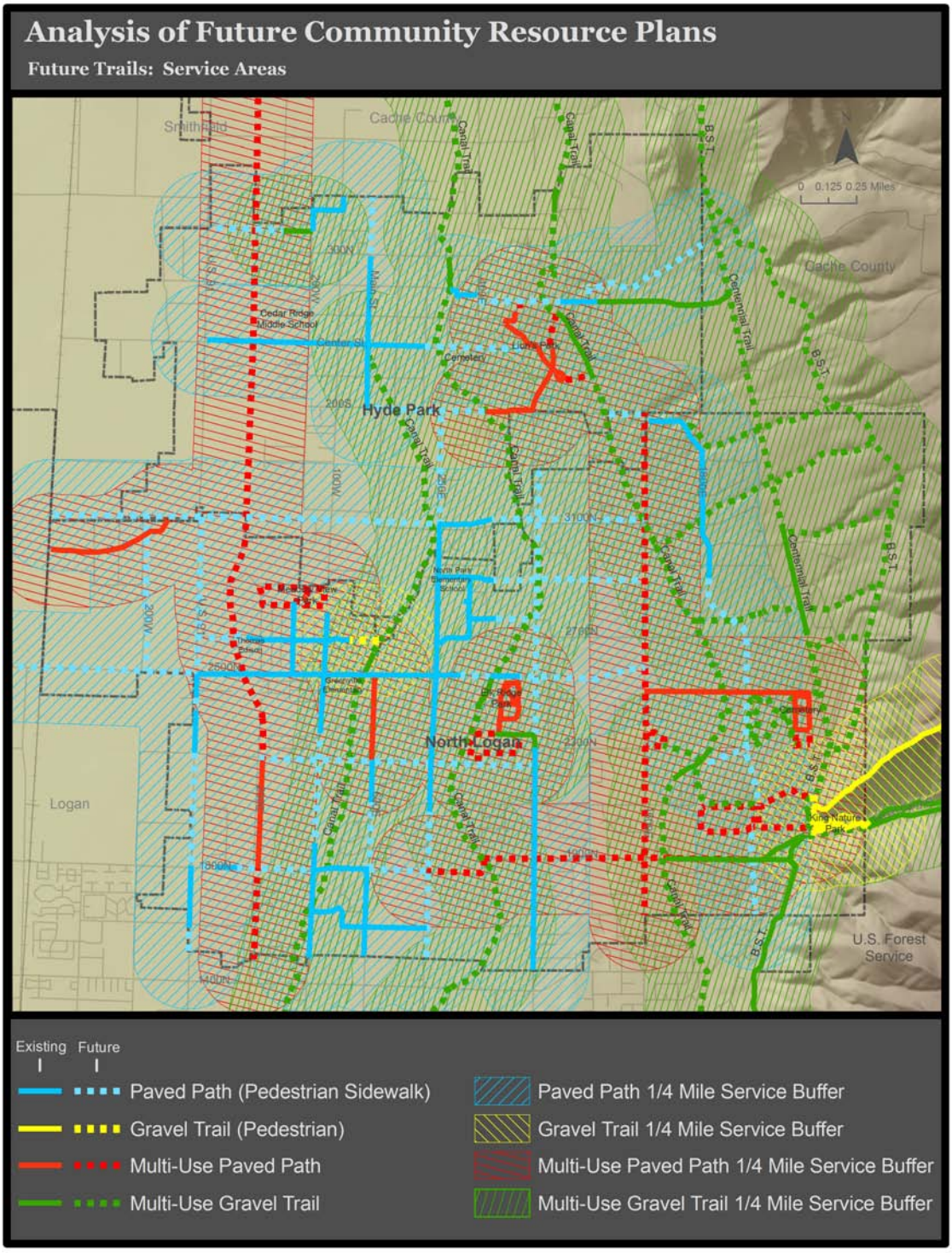


Figure 18: Future Trails - Analysis of Future (Planned) Community Resources.

Service Deficiency Analysis

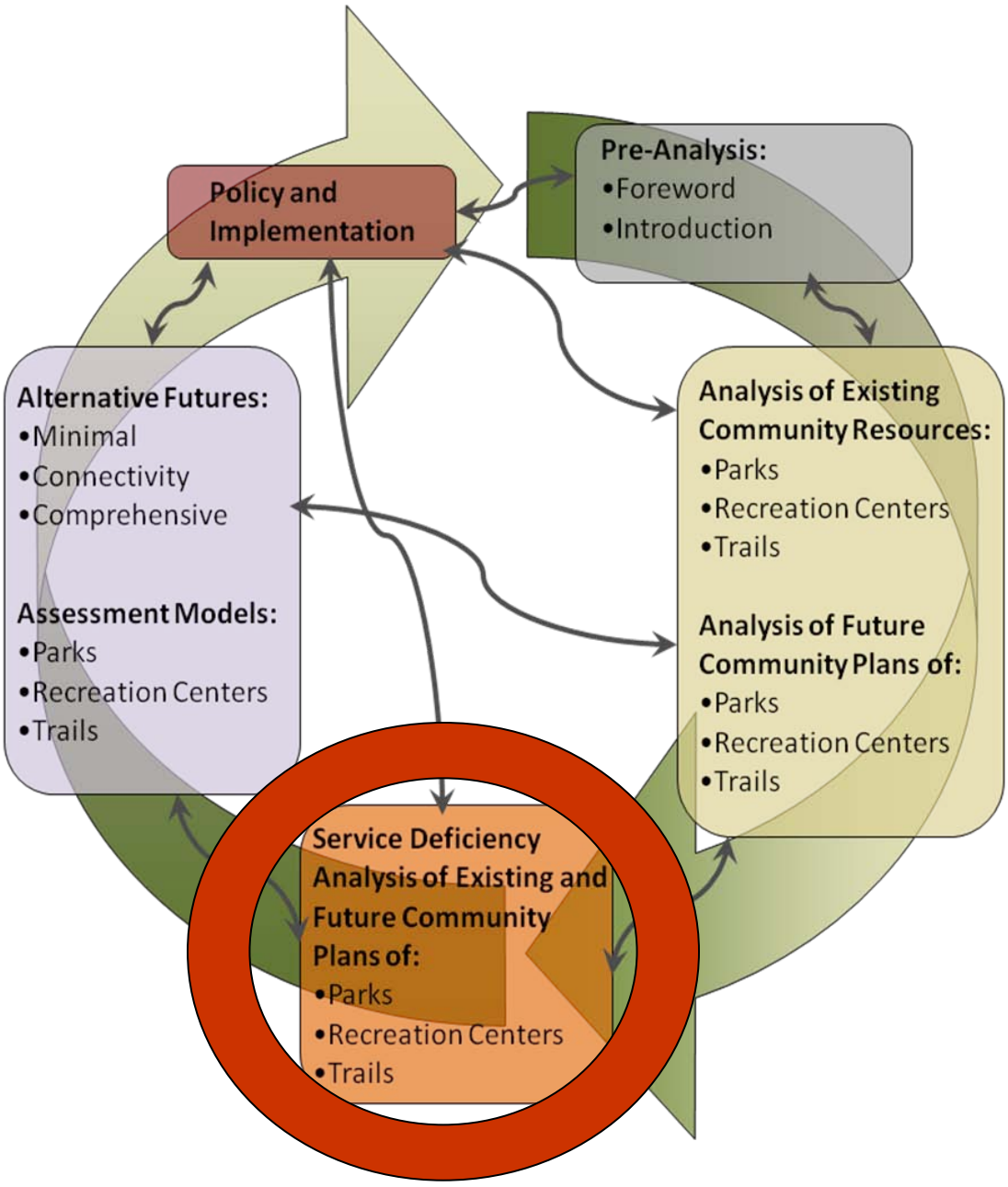


Figure 19: Methodology - Focus on Service Deficiency Analysis.

Service Deficiency Analysis - Overview

The service deficiency analysis is used to locate areas in the North Park study area, that may be lacking in service in the categories of parks, recreation centers, or trails. These areas, where there may not be sufficient coverage of parks, recreation centers, and trails, will be the areas where planners, developers, and local municipalities will need to focus their efforts in providing the services that will be needed by current and future citizens of the community (Boone-Heinonen et al., 2010).

The service areas (buffers) that were created in previous chapters are the key components in the service deficiency analyses. As illustrated in the Figure 20, the different layers of parks, recreation centers, or trails are overlaid (added) together. The overlaid service areas (buffers) that have the highest number of coincident layers are illustrated in a darker shade of color. For example, in Figure 20, the various park service area layers from the "Analysis of Future Community Resource Plans" have been overlaid. The locations that have the darkest shade of green have the highest number of coincident, or overlapping, layers. The result is a gradient composite of park layers. The areas that are deficient in park service are illustrated with the lightest shades of green.

The respective service areas have been "added" together to form a composite for all existing and planned parks, recreation centers, and trails. The areas with the least number of coincident layers (or no layers) will be the areas that are deficient. The deficient areas will need to be addressed with the appropriate assessment models.

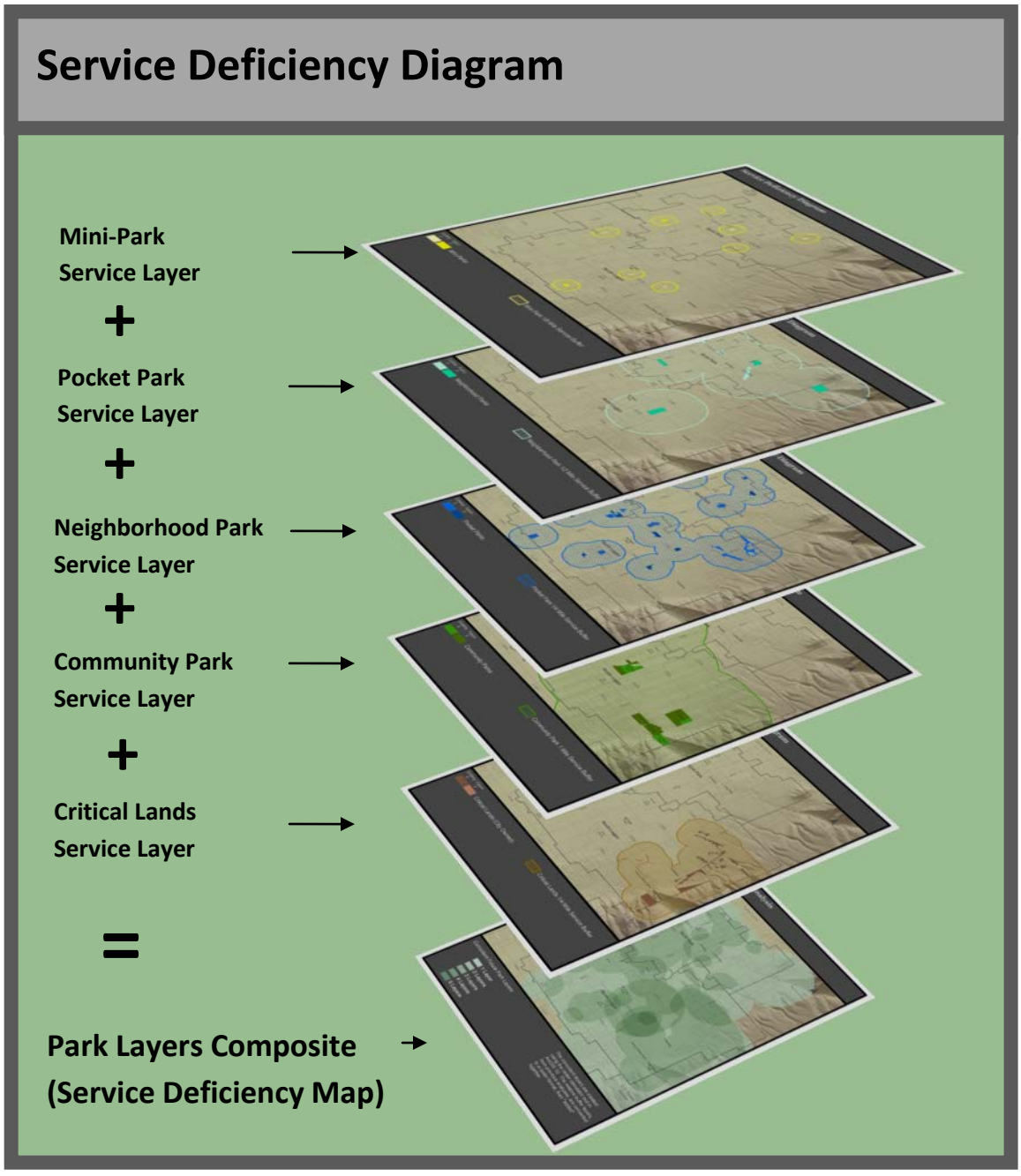


Figure 20: Service Deficiency Diagram - Overlay Illustration.

Service Deficiency Analysis - Parks

Existing Parks: In the existing parks service deficiency map (Figure 21), the vast majority of the North Park study area is symbolized with a very light shade of green (or with no shade at all). This indicates that there are several areas that can be termed as deficient as it relates to park access. One of the main areas of park deficiency that stands out is located around 400S 100W in Hyde Park City. This location has experienced rapid growth in the past few years. The citizens in this area have little park access in walking distance. The larger neighborhood and community park service areas are still beyond reasonable access for these citizens. Similarly, the northeast portion of Hyde Park City is lacking in park service. This area has also experienced relatively rapid growth over the past ten years.

Other areas of the North Park study that seem to be lacking in park access are the commercial areas of both municipalities. Planned trails and open areas in the northwest industrial portion of North Logan City should serve as a model for future commercial development.

There are only a few areas in the North Park study area that are symbolized in a darker shade of green (Figure 21). This indicates that there are few citizens in the study area who have reasonable access to multiple parks. The majority of current residents in the North Park study area have relatively limited access to some form of parkland.

Future Planned Parks: The second park service deficiency map is composed of the layers created in the Analysis of Future Community Resource Plans (Figure 22). As illustrated in the second parks map, the areas of high deficiency in the existing parkland service deficiency analysis have been addressed with the addition of parks in these respective areas. However, there are still several areas throughout the North Park study area that are still symbolized with a light shade of green. This would indicate that there is only one layer (service area) that encompasses these areas.

Future plans of parks will need to be altered so that they provide adequate access to parks in the northeast portion of Hyde Park City and the entire south end of North Logan City. There are several small areas throughout the North Park Study area that will need to be addressed as well. As future plans are updated, local stakeholders, planners, and city officials will need to ensure that local citizens are offered reasonable access to multiple parklands throughout the North Park study area.

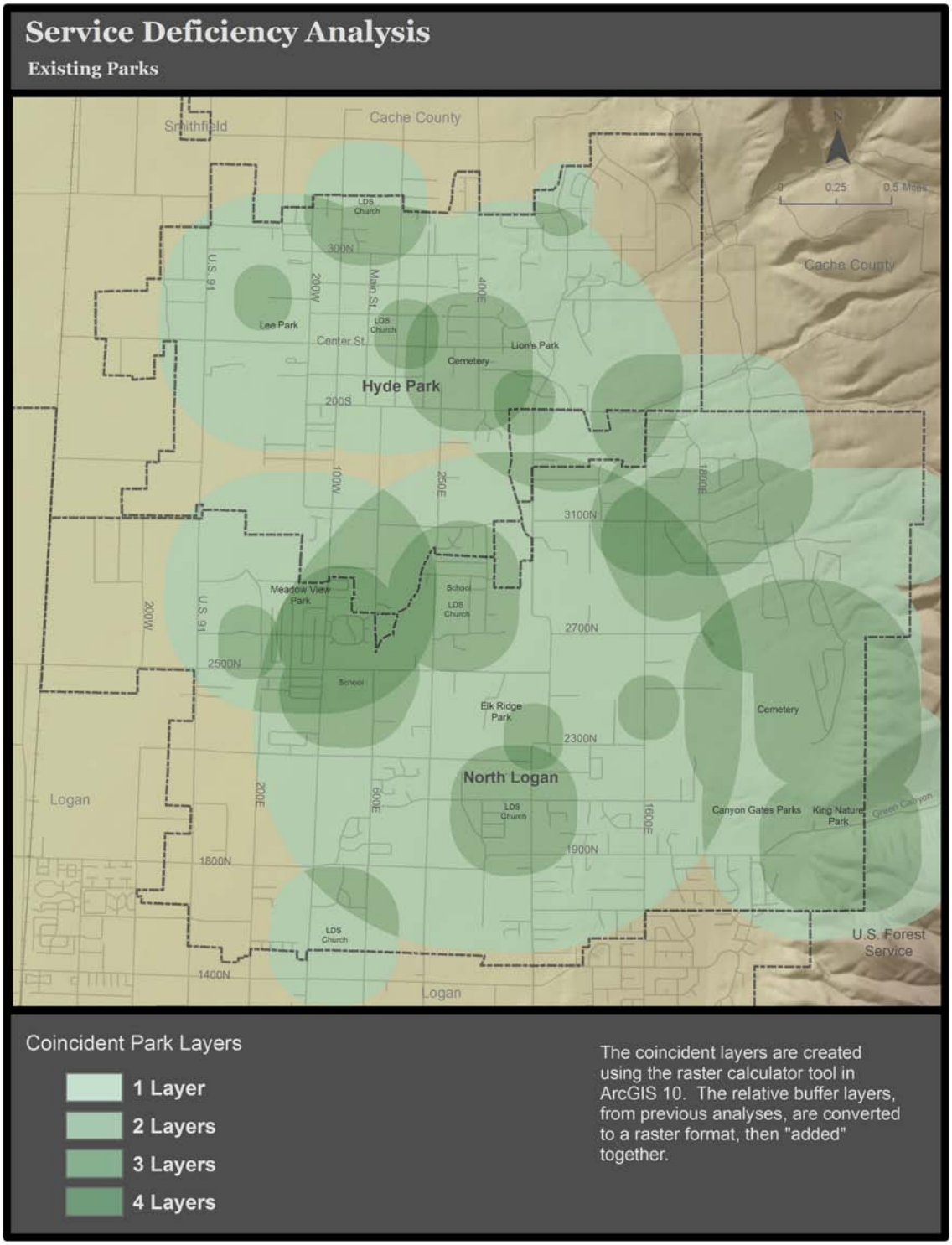


Figure 21: Service Deficiency in Existing Parks - The lighter shades of color (or no color) indicate areas of deficiency. Conversely, the darker shades of color indicate that the residents have access to multiple park resources.

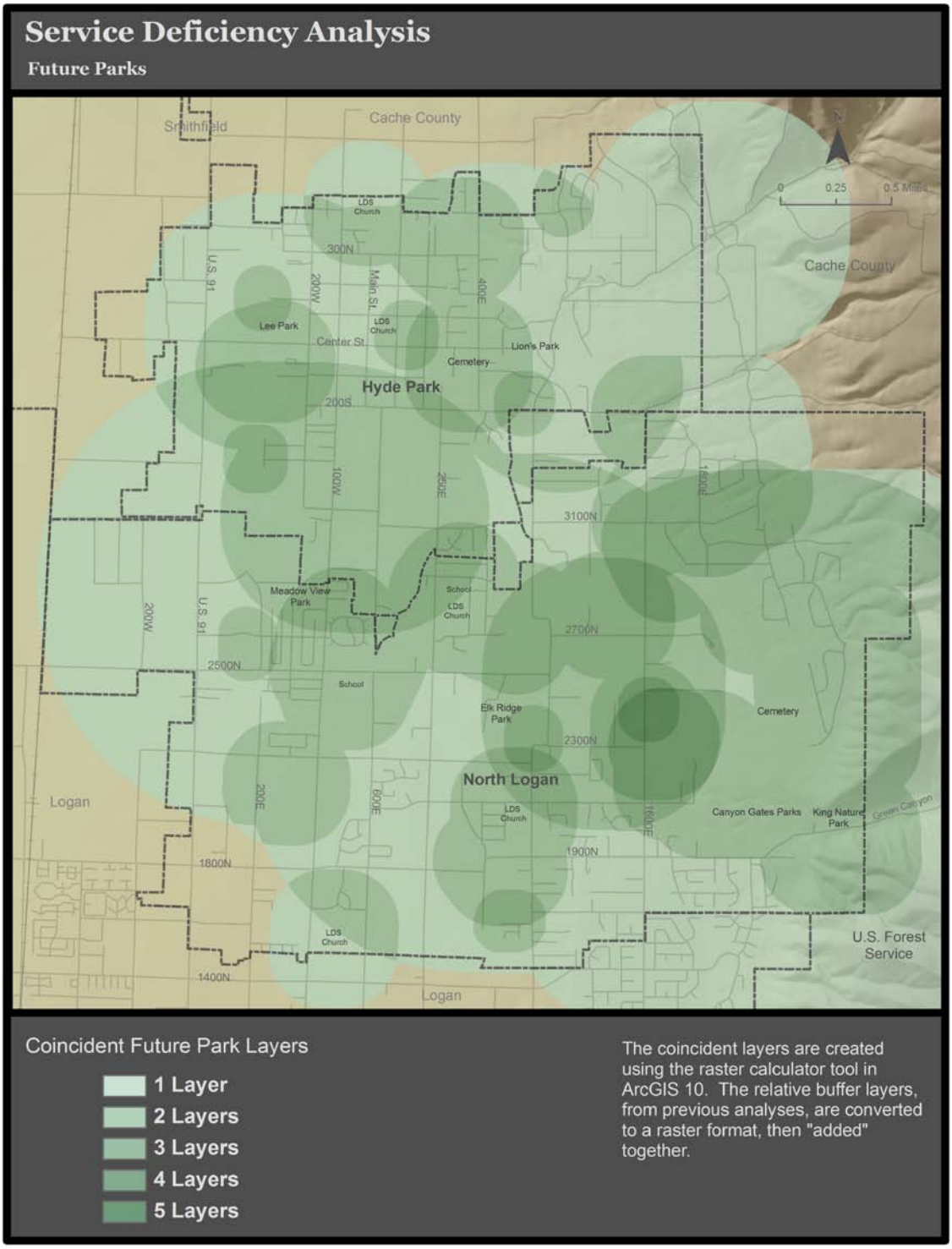


Figure 22: Service Deficiency in Future Parks - The lighter shades of color (or no color) indicate areas of deficiency. Conversely, the darker shades of color indicate that the residents will have access to multiple park resources.

Service Deficiency Analysis - Recreation Centers

Existing Recreation Center: The recreation center deficiency maps were created the same way as the parks deficiency maps. The four types of recreation center service areas, created in previous chapters, were overlaid (added) together to form the gradient composite of recreation center service areas (Figure 23). The areas that are shaded in the darkest blue are the areas that have the highest number of coincident layers (service areas).

There are a high amount of areas that can be labeled as recreation center deficient, or non-existent, for the existing residents of the North Park Study area. This is fairly common, especially in smaller communities. However, there seems to be a very large area on the east bench of North Logan City, where the residents are not within a reasonable distance of some form of recreation center. These areas will likely be addressed through future LDS churches that are planned as growth continues along the bench. Similarly, a public recreation center (with a 2 mile service area) in North Logan would provide these residents with at least one recreation center located within a reasonable distance.

Future Planned Recreation Centers: The second recreation center service deficiency map is composed of the layers created in the Analysis of Future Community Resource Plans (Figure 24). This future recreation center map affirms that there are very few plans that address the need for future community recreation in the North Park Study area. Basically, the recreation center plans rely on future development by local schools, private (commercial) recreation centers, and the LDS church. While it is reasonable to suspect, based on past development patterns, these entities will provide a portion of the future recreation needs in the North Park study area, they will not address the overwhelming recreation deficiency that exists throughout the entire North Park study area.

In order to address the recreation center deficiency in the area, North Logan City and Hyde Park City will need to implement plans for a future public recreation facility. The most logical location would be in close proximity to the existing Eccles Ice Arena. This would create a "recreation hub" with a large enough service area to cover all of the North Park study area.

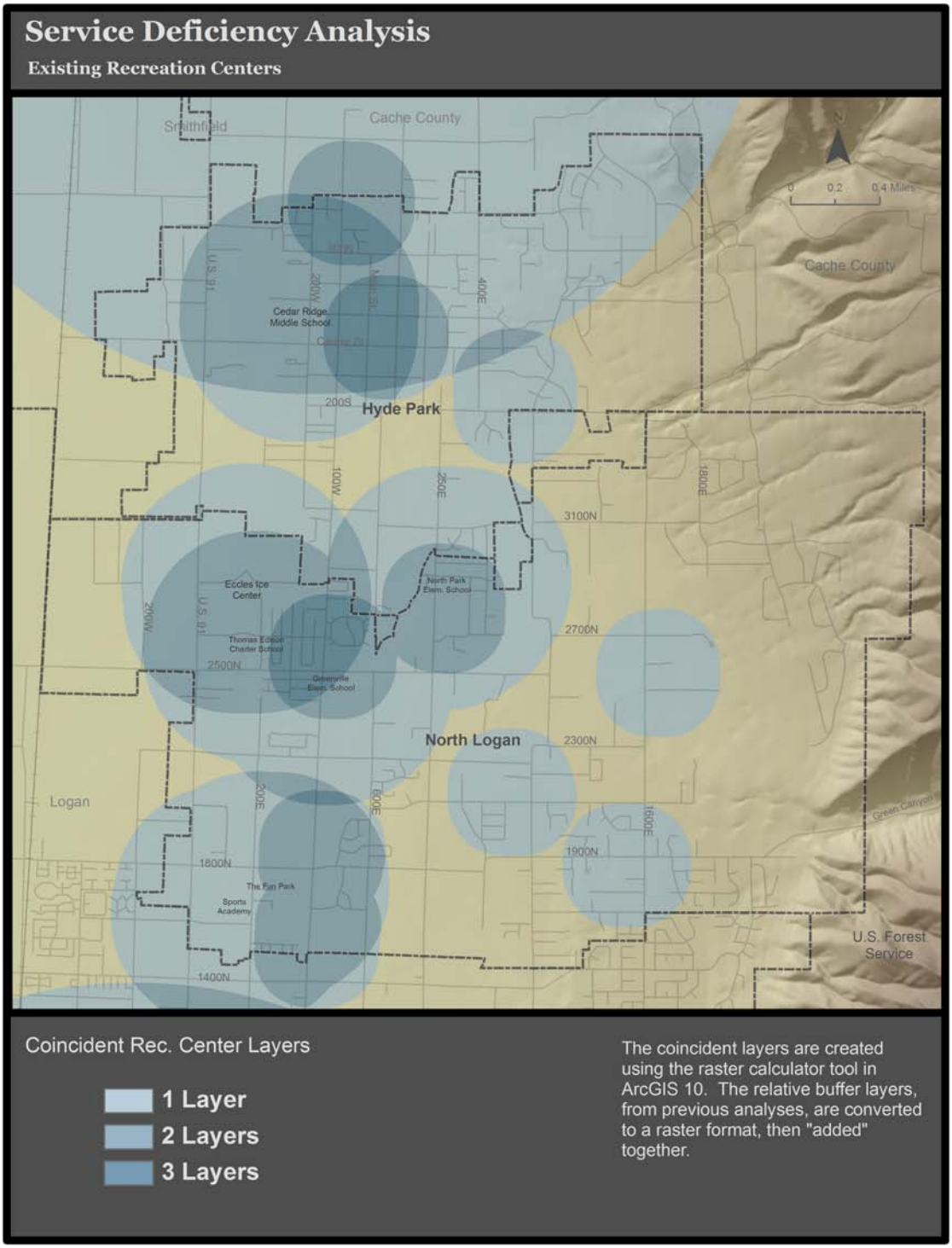


Figure 23: Service Deficiency in Existing Recreation Centers - The lighter shades of color (or no color) indicate areas of deficiency. Conversely, the darker shades of color indicate that the residents have access to multiple recreation centers.

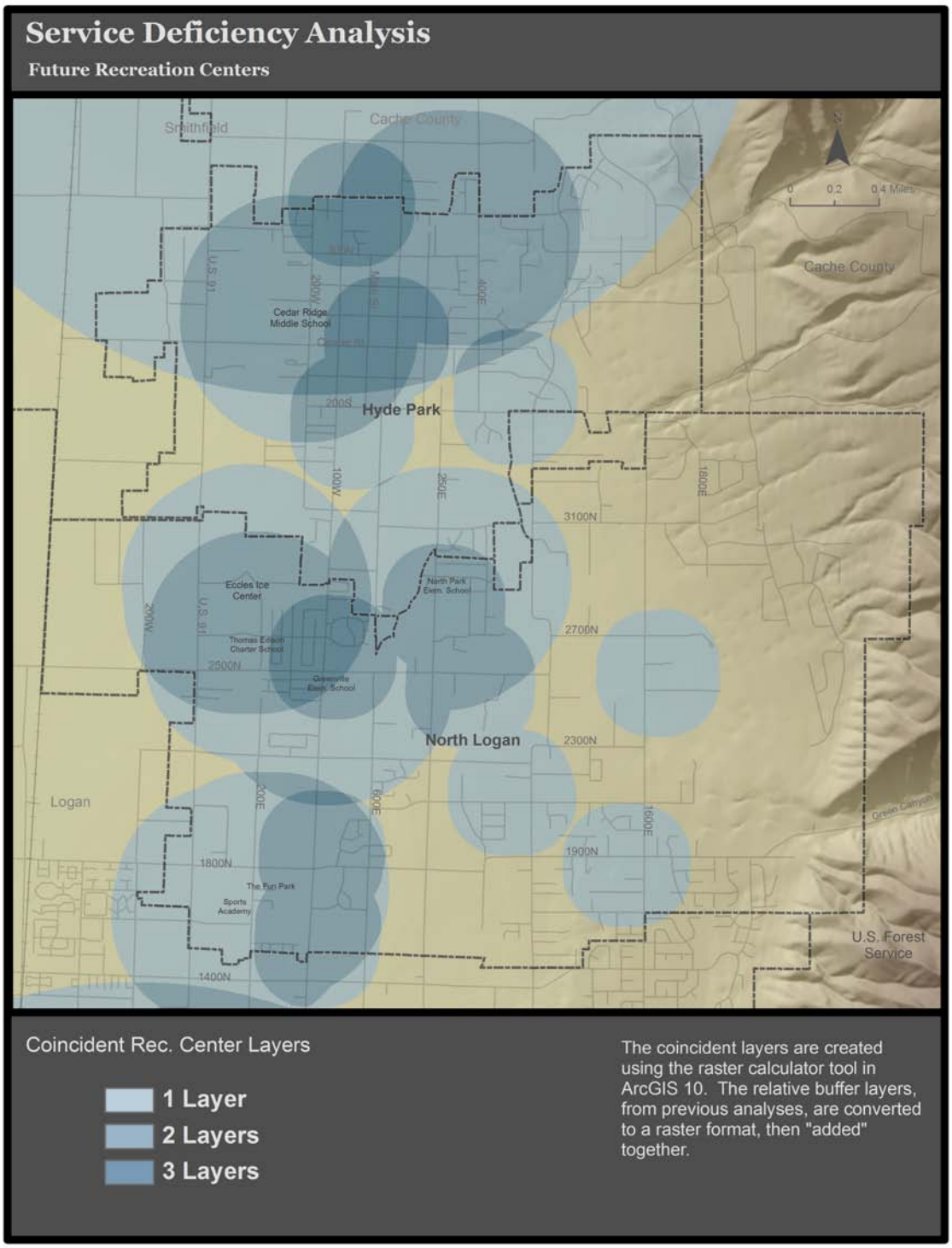


Figure 24: Service Deficiency in Future Recreation Centers - The lighter shades of color (or no color) indicate areas of deficiency. Conversely, the darker shades of color indicate that the residents will have access to multiple recreation centers.

Service Deficiency Analysis - Trails

Existing Trails: The service provided by all of the trail categories is clarified in the service deficiency analysis. While the service area (buffer) layers created in previous chapters are relatively difficult to analyze by simply creating a map, they are easily comprehensible in the layers composite map (Figure 25). This map clearly illustrates the service areas that are provided by the existing trails in the North Park study area. Coincidentally, all of the areas that are deficient in trails service can readily be seen in the map (Figure 25).

This first map clearly shows several areas throughout the North Park study area where there is little or no connectivity (Figure 25). The trails are heavily located in the larger parks; however, there are few trail service areas that connect the parks to the local residential, commercial, and agricultural areas of each community.

Future Planned Trails : The second service deficiency map (Figure 26), which is a composite of planned trails throughout the North Park area, illustrates the efforts by local planners to address the lack of connectivity throughout the area. There are relatively few areas of service deficiency in the future plans of trails. The only area that has a very high level of potential that will need to be addressed in the assessment models is along the east bench of both communities and along western extents of each municipality.

There is obviously a major network of trails that extends north-south along the east bench (mainly the BST), but there are several east-west drainage areas along the east bench where trails should be planned and implemented. These east-west corridors will provide the residents with several options to access the numerous recreation opportunities afforded by the Forest Service property to the east. Similarly, the recent efforts of local developers to create walkable commercial, mixed-use, and industrial areas has set a precedence for future quality trail development along the western extent of the North Park study area.

The future trail plans will be very difficult to implement and install, but each community should make strong efforts to pursue and install the proposed trail plans in order to create a "walkable community of parks, trails, and community recreation" (Batt et al., 2005). These efforts will vastly improve the quality of life of each of the residents throughout the North Park study area.

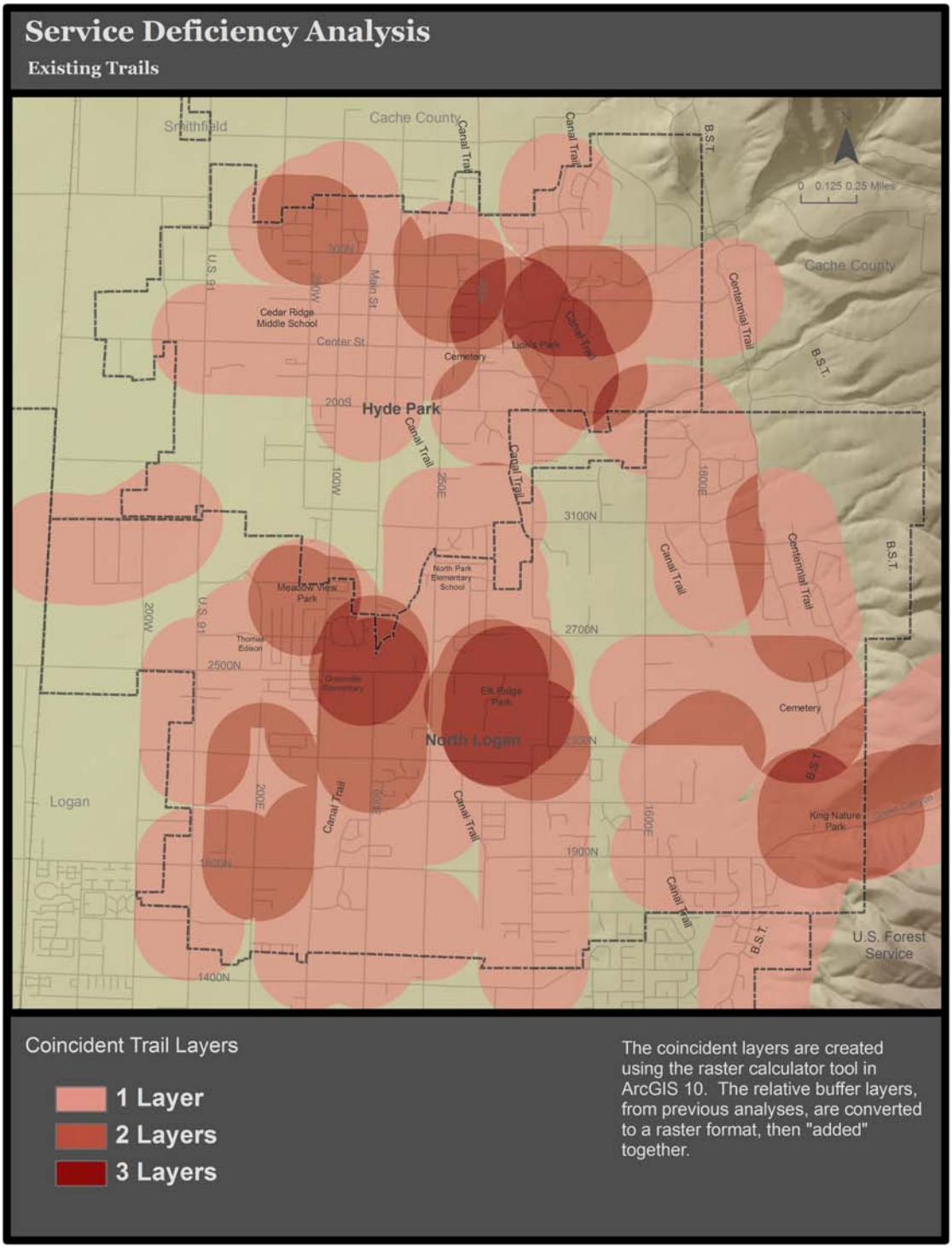


Figure 25: Service Deficiency in Existing Trails - The lighter shades of color (or no color) indicate areas of deficiency. Conversely, the darker shades of color indicate that the residents have access to multiple trails.

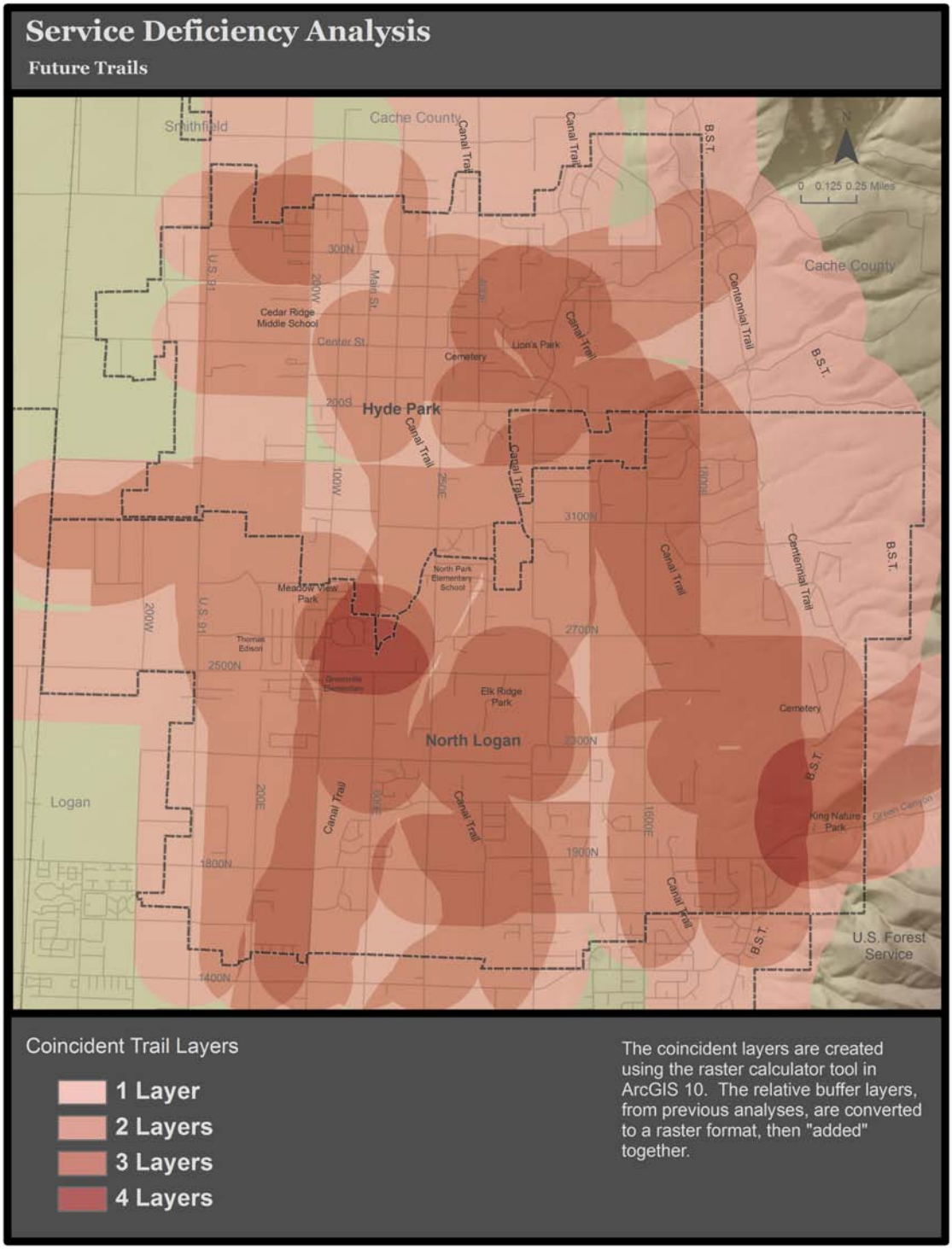


Figure 26: Service Deficiency in Future Trails - The lighter shades of color (or no color) indicate areas of deficiency. Conversely, the darker shades of color indicate that the residents will have access to multiple trails.

Service Deficiency Analysis - All Park, Recreation Center, and Trail Layers

Existing Parks, Recreation Centers, and Trails: The following service deficiency analysis was created by overlaying, "adding," all existing park, recreation center, and trail service deficiency (buffer) layers (Figure 27). The output is a gradient composite that illustrates the areas in each community that have a large amount of existing parks, recreation centers, and trails in close proximity. These areas are symbolized in a dark red color. Conversely, the areas that have been symbolized in green are areas that are relatively deficient in providing the park, recreation center, and trail needs of the citizens in the adjacent areas.

The current locations in each community that have the highest number of coincident layers are located near the "civic center" of both communities. These areas, which contain a relatively large amount of park and recreation opportunities, should serve as a model for future planning and development throughout the North Park study area.

Plans of Future Parks, Recreation Centers, and Trails: The "future" composite map was created the same way as the existing parks, recreation center, and trails map (Figure 28). This map combines all of the future park, recreation center, and trail service areas that were created in the Analysis of Future Community Resource Plans.

This service deficiency map illustrates the efforts of planners to provide the parks and recreation needs of the citizens living outside of the "civic centers" of each community. However, there still are relatively large amounts of land between the communities of Hyde Park City and North Logan City that will need to be addressed in the assessment models. These models will ensure that local developers, planners, and city officials have the different options needed to provide the parks, recreation, and trail needs of the future citizens of the North Park Study area.

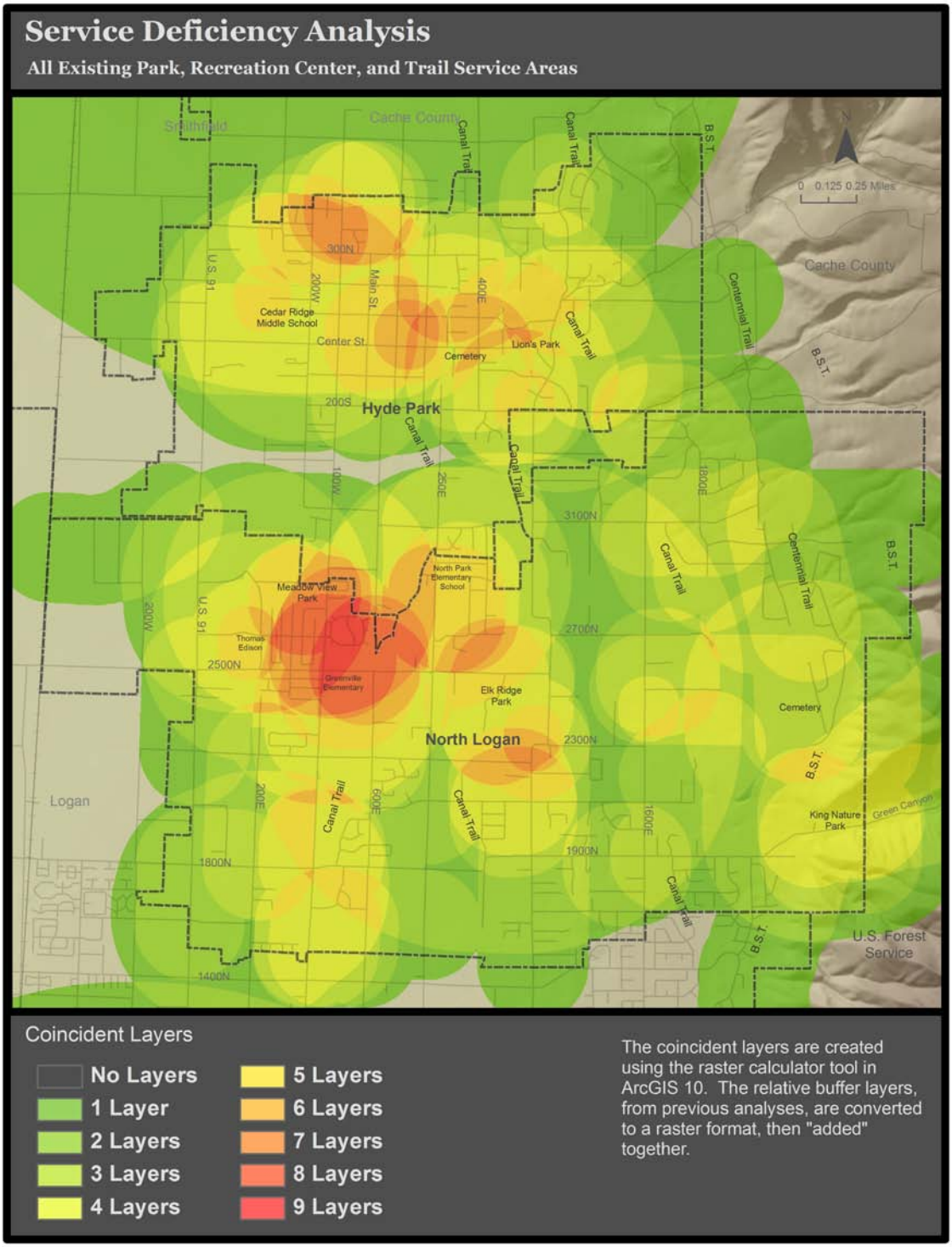


Figure 27: Service Deficiency Analysis of All Parks, Recreation Centers, and Trails - The higher the number of coincident layers indicates that the residents in these areas have a relatively high amount of resources within close proximity.

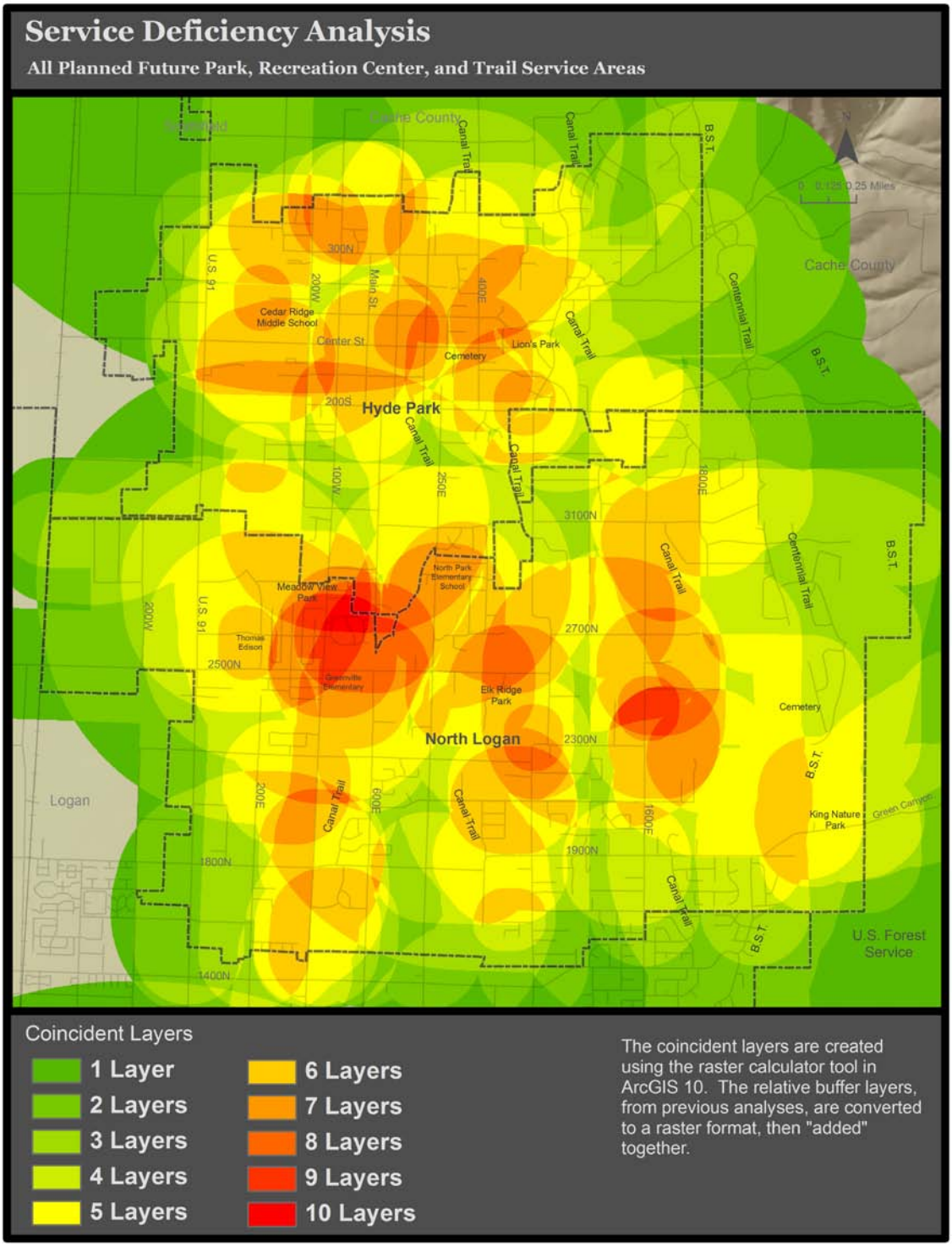


Figure 28: Service Deficiency Analysis of All Future Parks, Recreation Centers, and Trails - The higher the number of coincident layers indicates that the residents in these areas will have a relatively high amount of resources within close proximity.

Assessment Models

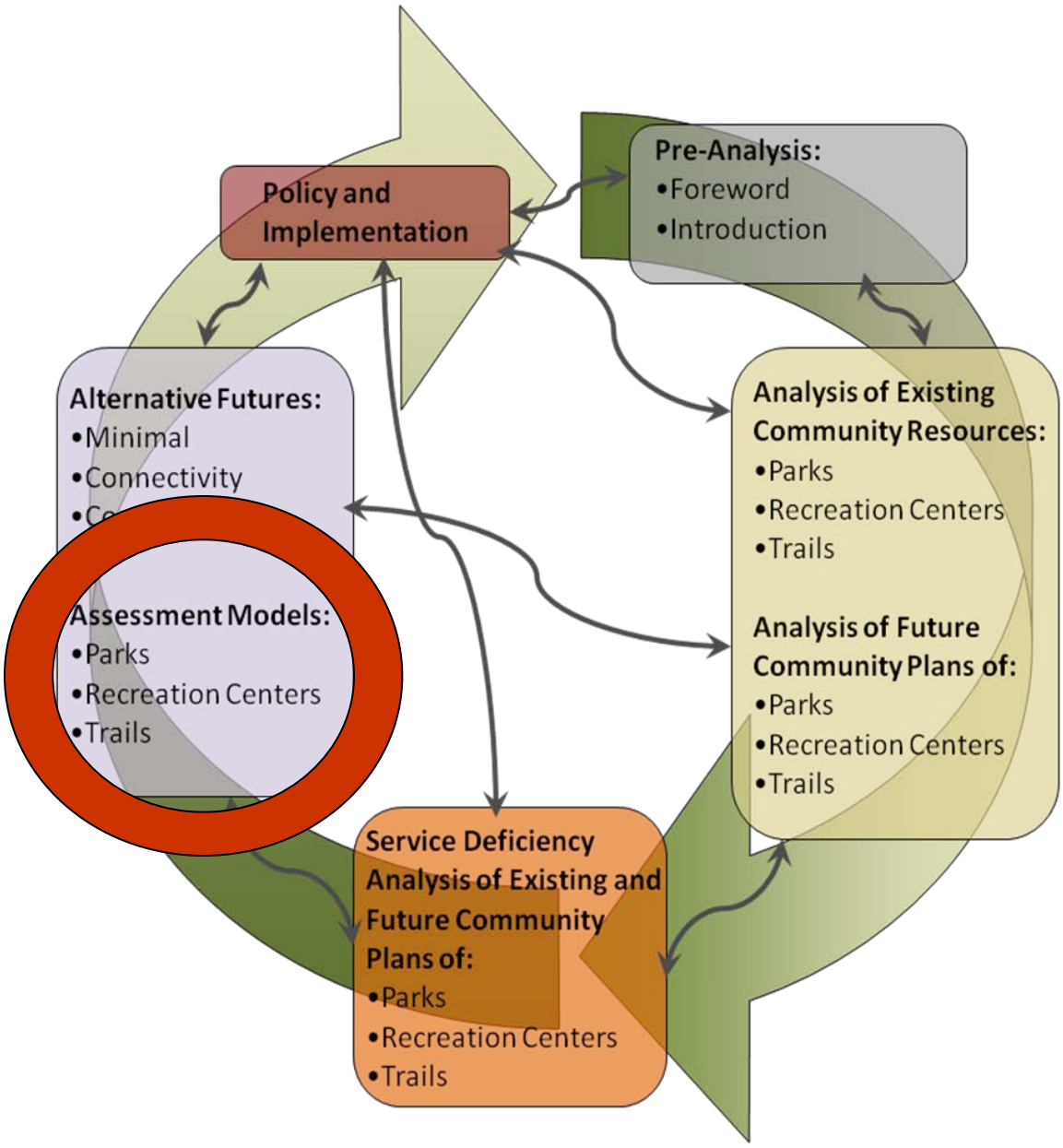


Figure 29: Methodology - Focus on Assessment Models.

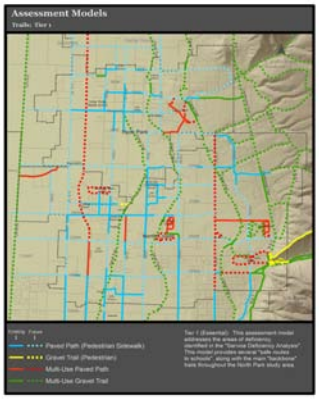
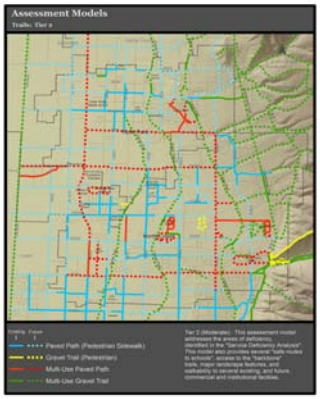
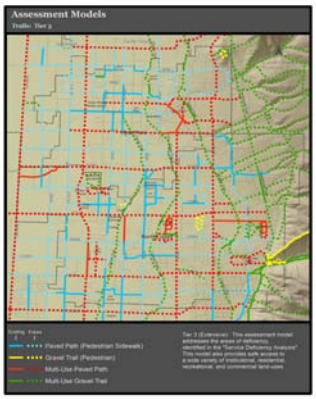
Assessment Models - Tier Process

There are many different variables and uncertainties related to development and growth within the planning process. In order to address a wide variety of potential growth patterns, several tiers or levels for parks, recreation centers, and trails have been created.

This model tiering strategy creates many options for current and future stakeholders. Local planning officials may utilize any of the multiple options to create alternative futures and master plans that accommodate the particular needs of the citizens of the community.

Each of the multi-level (tiered) models that have been created address the areas of deficiency that were identified in the previous chapter. However, as the tiers increase from tier one to tier three, the level of extensiveness is increased. Thus, the tier one model for parks, recreation centers, or trails will provide the essential components for any community plan, while the tier three model will provide a very aggressive planning model that would include a wide variety of leisure services in very close proximity to the vast majority of residents in the North Park study area.

Table 2: Tiering Process Example - Trails Assessment Model.

		
Trails - Tier 1 ***Essential***	**Trails - Tier 2** ***Moderate***	**Trails - Tier 3** ***Extensive***
This tier contains all of the highest priority trails, related to safety and community access.	This tier contains all of the trails of tier 1, along with a higher level of access to multiple land-uses.	This tier contains all of the trails of tier 1 and tier 2, along with multiple trail type access within a very close proximity.

Assessment Models - Parks

Tier 1 (Essential): The tier one parks model identifies both existing and future parklands that will be essential to any parks plan developed in the North Park area. This model includes existing parklands along with the majority of proposed parks that are existing in future plans of parklands. However, these planned parks have been slightly modified to address the areas identified in the service deficiency analysis. While the majority of the future parklands that have been identified in previous park plans have some type of real property agreement, the parks proposed in this model are primarily based on a spatial location within the North Park area. Consequently, as park master plans are created, local planning officials will need to identify real properties in close proximity to the proposed parks in this model and subsequent models.

The majority of the focus of the tier one parks plan surrounds not only the areas of deficiency, but it also concentrates on general public health, welfare, and safety of the citizens of the community. This is accomplished through the critical lands, which are comprised of drainage areas and steep slopes. It is not requisite that these critical lands are owned by municipalities; however, each community should implement certain development policies that will ensure that these areas remain free from housing and other structures. Incidentally, the critical lands become ideal locations for a density bonus. These open spaces may then be managed through a local HOA, the municipality, or even included within the lots containing a prescriptive easement.

Tier2 (Moderate): The tier two parks model is comprised of all of the parks from the tier one model. In addition, the tier two model focuses on accessibility to multiple categories of parks for each resident. Consequently, there is very little deficiency in access for the vast majority of the residents throughout the North Park area. One of the primary methods of addressing the needs of the community is through the increase of the number of pocket parks throughout the region, along with the expansion in size of existing parks. For example, where possible, a pocket park can be expanded to the neighborhood park status, thus increasing the service area (buffer) significantly. It is important to note that mini-parks and pocket parks can be owned and managed through a private HOA, where possible.

Tier 3 (Extensive): The tier three parks model contains all of the parks from tiers one and two. However, the proximity to multiple size categories of parks are significantly increased for all of the current and future residents of the North Park area, along with access to separate types of parkland (equestrian and dog parks). This model would provide a very high quality of life for each of the citizens of the community. Similar to

tier two, several parks have been expanded to a larger category of park. In addition, there are numerous neighborhood, pocket, and mini-parks. As noted before, the Tier 3 model would require an increased level of planning and cooperation between the county, local municipalities, schools, churches, homeowner associations, commercial property owners, and large residential property owners.

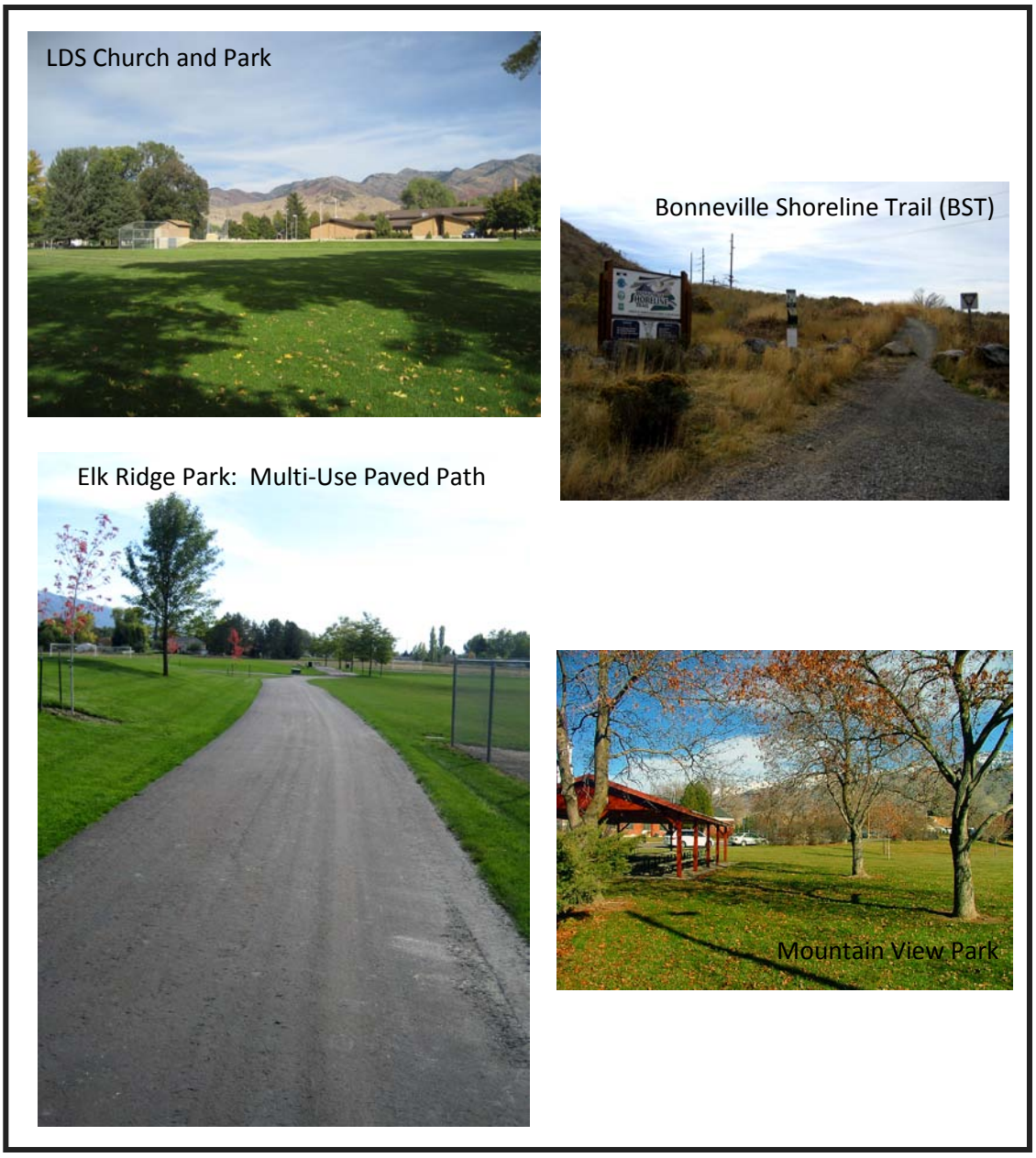


Figure 30: Examples of Existing Resources.

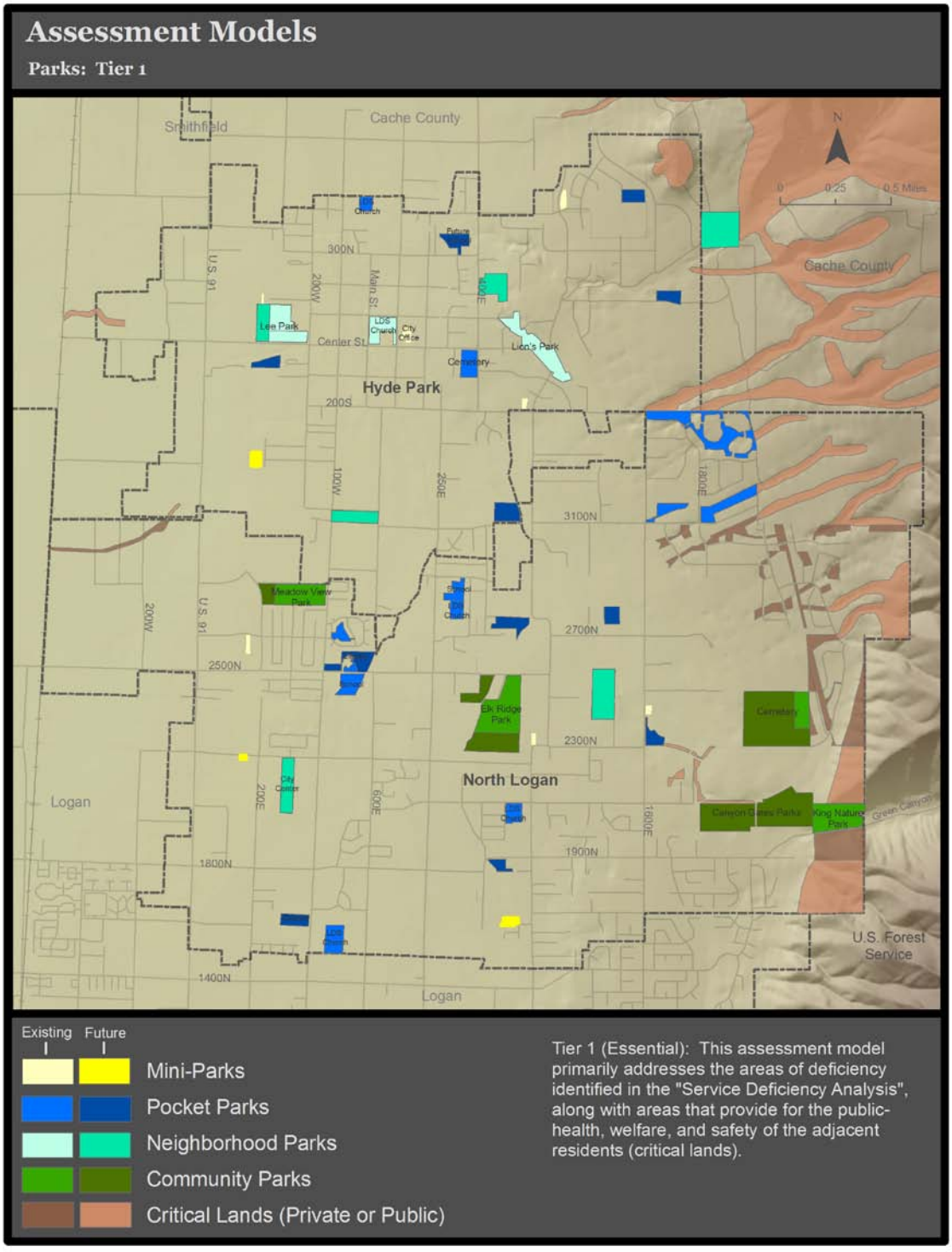


Figure 31: Assessment Models - Parks Tier 1 Map.

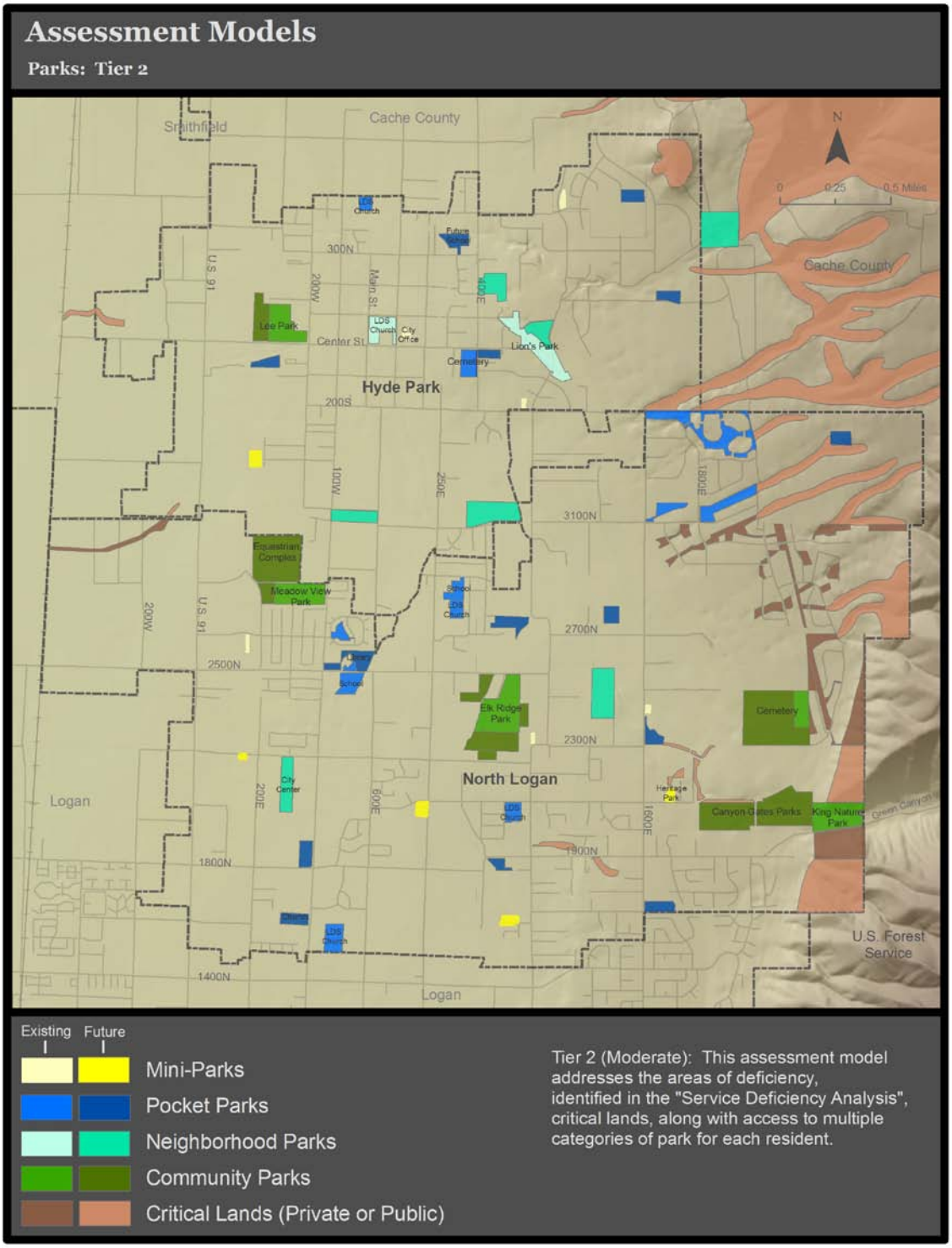


Figure 32: Assessment Models - Parks Tier 2 Map.

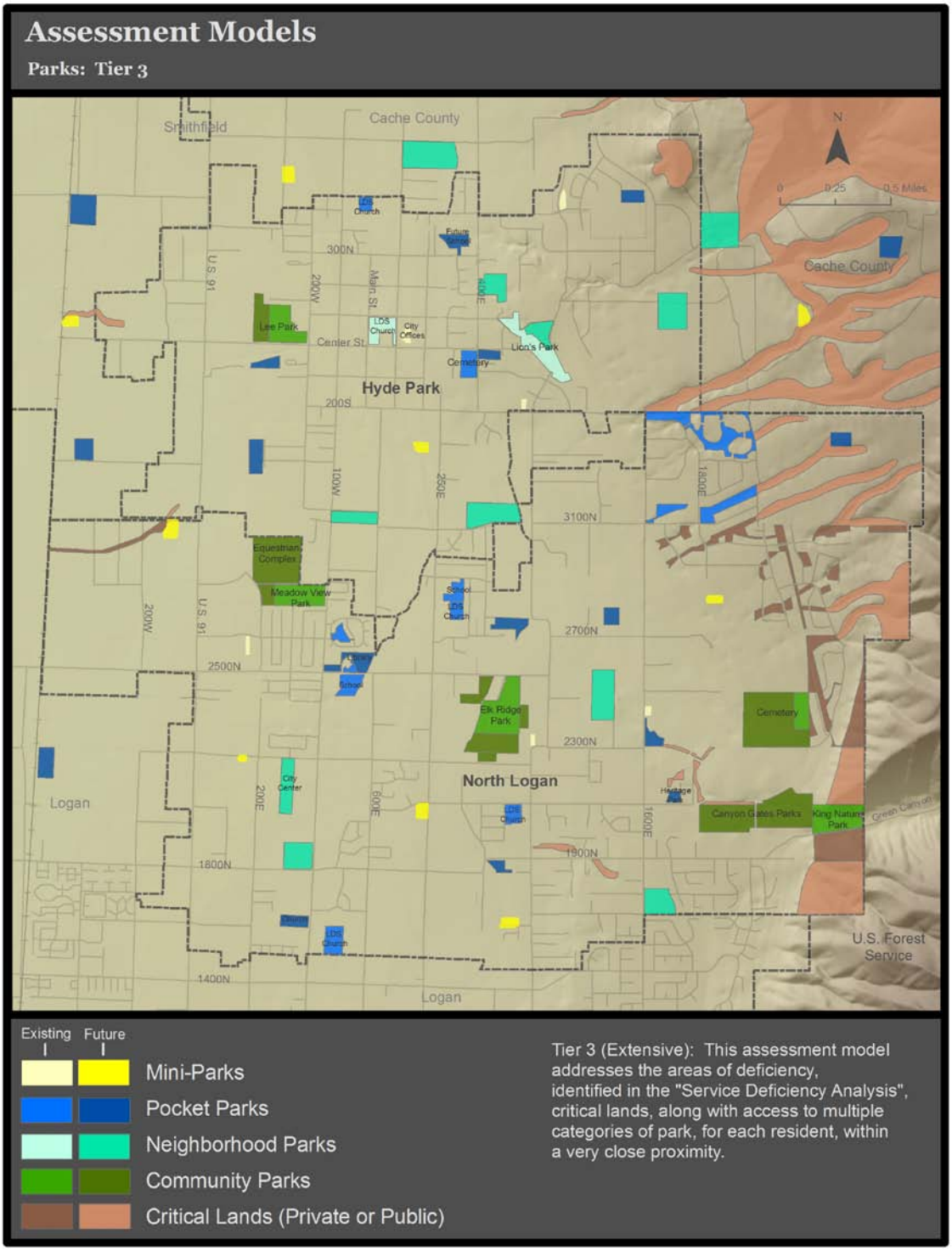


Figure 33: Assessment Models - Parks Tier 3 Map.

Assessment Models - Recreation Centers

Tier 1 (Essential): The tier one recreation center model identifies both existing and future recreation centers that will be essential to the citizens of the North Park area. These recreation centers primarily address the areas that may be deficient in service to the residents of each community. The one major addition to the tier one model is the expansion of the Eccles Ice Center to the level of a public recreation center. This expansion will be a vital component to the recreation needs of each of the communities. A community recreation center commonly provides numerous recreation programs and events that can significantly increase the health and quality of life of the local residents. The other components of this model include the additions of potential churches, along with public schools.

A great amount of the parks, recreation centers, and trails are highly dependent upon when and where population growth occurs. However, these models have identified approximate locations that will best accommodate the needs of the citizens as they relate to parks, recreation centers, and trails. The local churches, schools, and private recreation centers are especially dependent upon the type of growth that may occur.

Tier2 (Moderate): The tier two recreation center model is comprised of all of the recreation centers from the tier one model, including the public recreation center located where the Eccles Ice Center is located. Similar to the park tier two model, this model has increased access to several different categories of proposed recreation centers. The potential private recreation centers will eventually provide different forms of recreation. These forms of recreation may include rollerblading centers, climbing walls, fitness centers, gymnastic and dance facilities, and swimming pools, thus increasing the multiple opportunities for each resident.

Tier 3 (Extensive): The tier three recreation center model contains all of the parks from tiers one and two. However, the proximity to the multiple categories of park is significantly increased for all of the current and future residents of the North Park area. Similar to the tier three parks model, this model would provide a very high quality of life for each of the citizens of the community. This model also includes various forms of cultural recreation opportunities within various parks. These recreation centers could be very important to the different demographics, especially the younger populations of the community. One thing to remember is the relatively long winters that are common in the North Park area. While there are some outdoor winter recreation opportunities

(skiing, snowshoeing, etcetera) in the parks and Forest Service properties, the citizens of the community will need several indoor recreation opportunities, as well. The centers proposed in this model will provide these opportunities.

Figure 34: Elk Ridge Park - Playground.

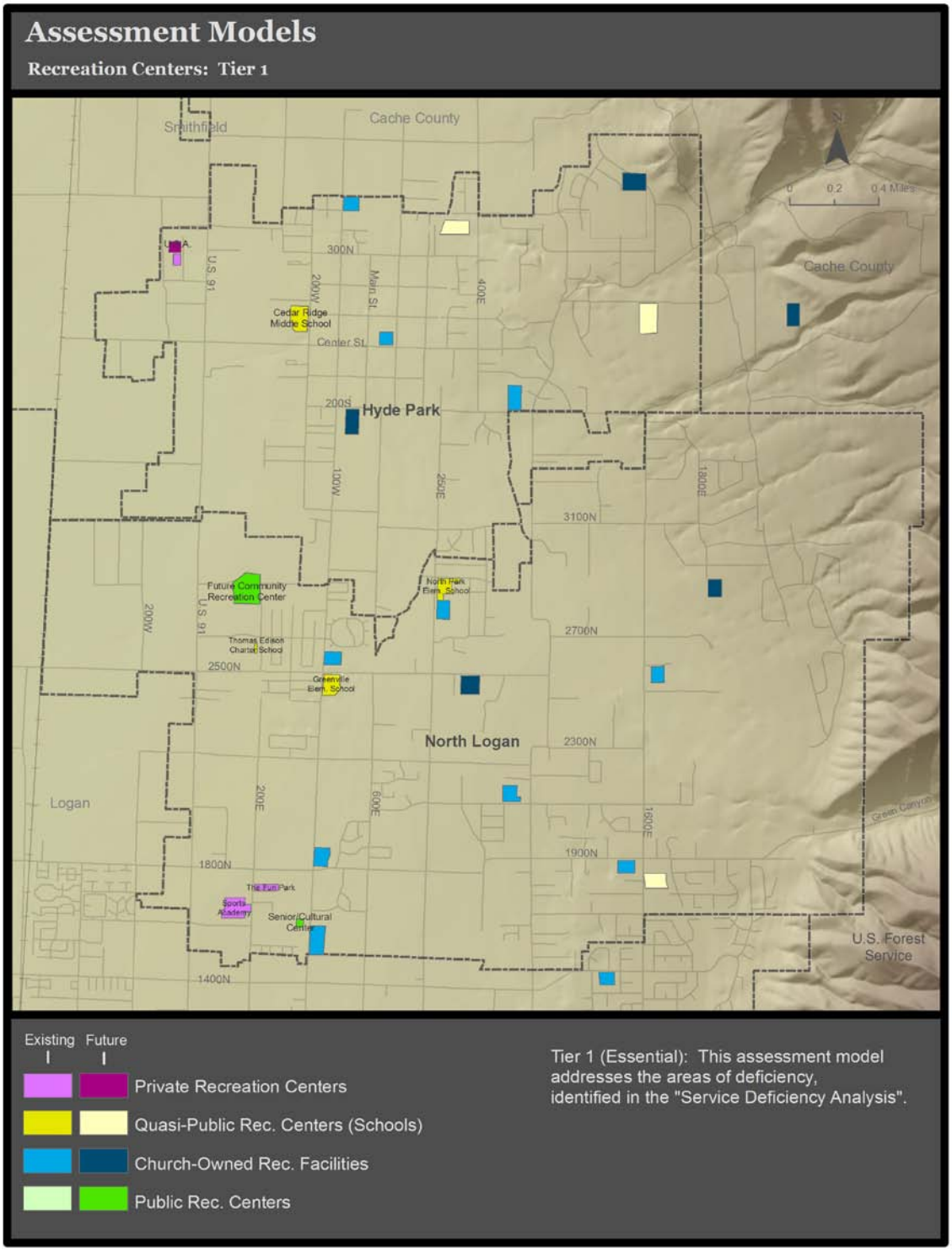


Figure 35: Assessment Models - Recreation Centers Tier 1 Map.

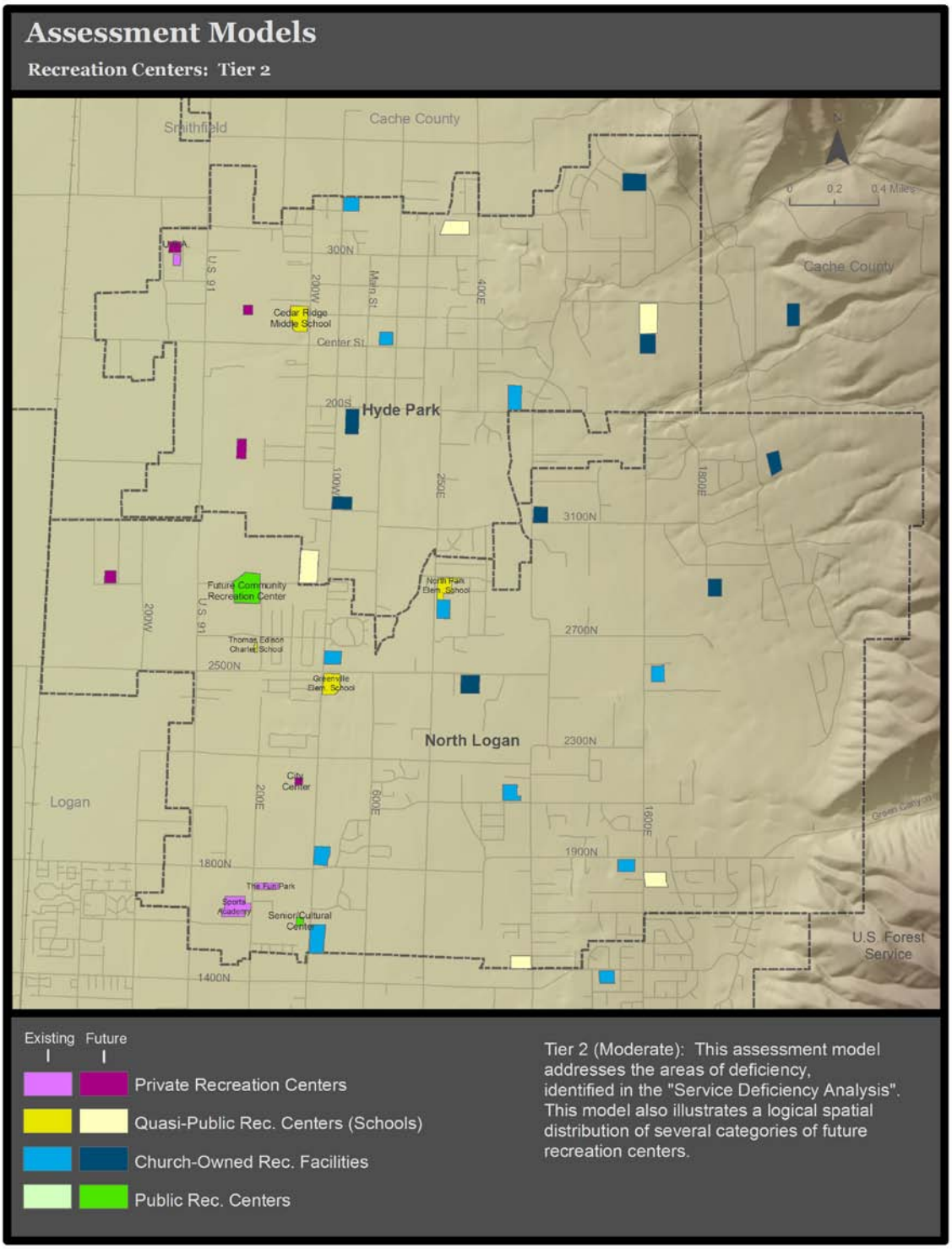


Figure 36: Assessment Models - Recreation Centers Tier 2 Map.

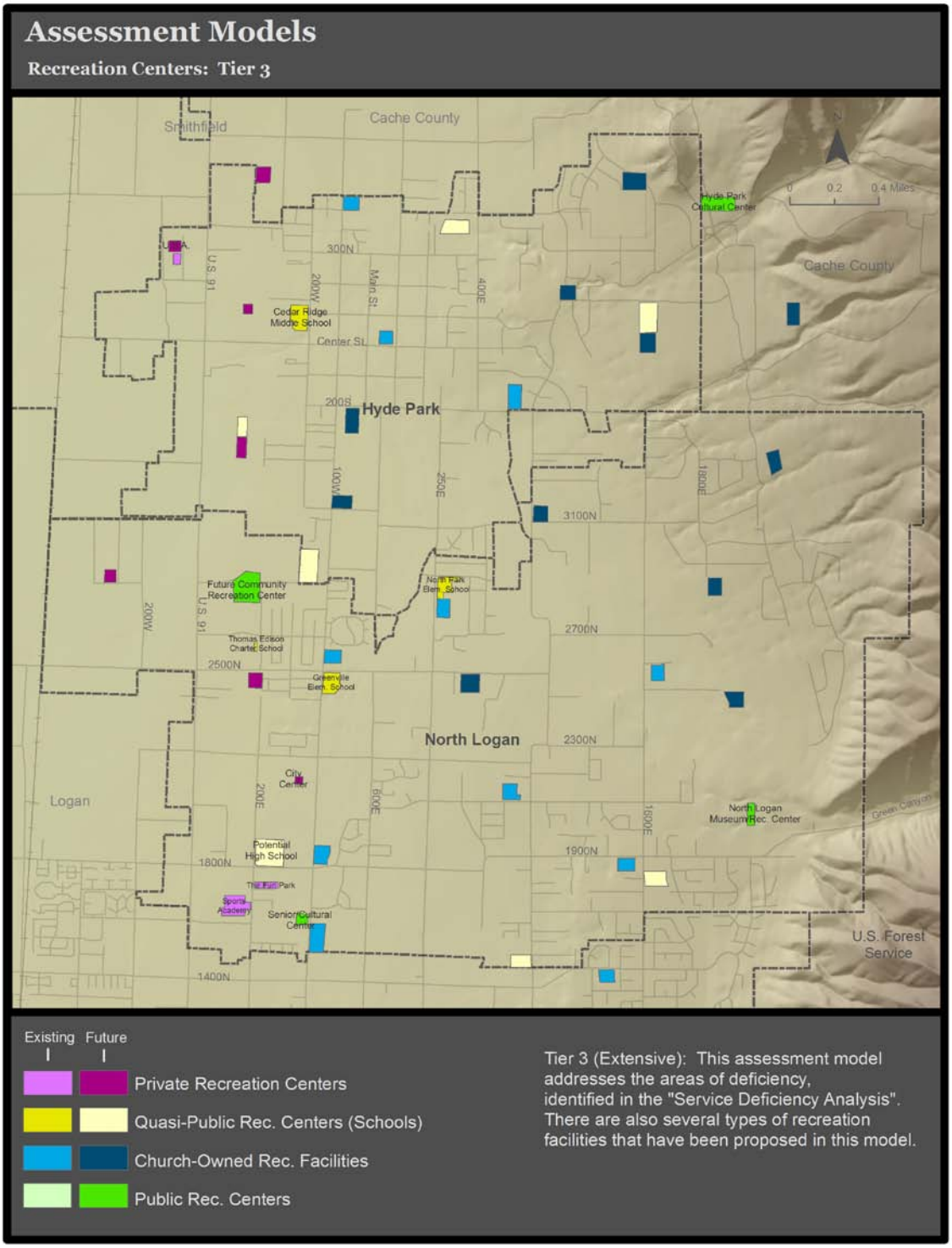


Figure 37: Assessment Models - Recreation Centers Tier 3 Map.

Assessment Models - Trails

Tier 1 (Essential): The tier one trails model identifies both existing and future trails that will be essential to the North Park area. This model addresses the service deficiency areas. However, the primary focus of the tier one model is "safety." As discussed in previous chapters, the school district has partnered with local municipalities and Cache County to create "Safe Routes to Schools." These trails can then be used by residents to not only access schools and parkland, they will also be vital connectors in creating a walkable community of parks, trails, and community recreation (Batt et al., 2005). Another focus of the tier one trails model is the creation of major "backbone trails." These trails will be major north-south and east-west connector routes that future trails may connect into. These backbone trails would be comparable to a major arterial roadway, and will most likely be comprised of the Bonneville Shoreline Trail, Canal Trails, 200E, 2500N, and 3100N, along with 100N and Center Street in Hyde Park (see Appendix C).

Tier2 (Moderate): The tier two trails model is comprised of all of the trails from the tier one model. In addition, the tier two model focuses on connectivity to multiple categories of land use for each resident. The focus of the model is to create an increased walkability to not only schools and parks of the North Park area, but also to provide increased access to the residential and commercial sector, along with the various institutions (hospitals, churches, recreation centers) of the community. Additionally, the categories of various trails have been expanded or improved. For example, where possible, a multi-use gravel trail or paved path (pedestrian sidewalk) can be expanded to a multi-use paved path. Consequently, increasing the access to multiple users and persons with disabilities (Cromley, 2008).

Tier 3 (Extensive): The tier three trails model contains all of the parks from tiers one and two. However, the proximity to the multiple categories of trail is significantly increased for all of the current and future residents of the North Park area. These trails would provide a comprehensive network of connectivity for each resident and vastly improve the quality of life of each citizen (Cache Metropolitan Planning Organization (CMPO), 2005). The trails of tier three include access to all of the features and institutions of tiers one and two; however, the trails in tier three provide relatively easy access to multiple recreation features, public transportation stops, historic and iconic landscape features, and planned public and private institutions. North Logan and Hyde Park have already set a valuable precedence through trails in Lions Park (and the surrounding

residential area), Elk Ridge Park, the Bonneville Shoreline Trail, along with the multi-use paved path on 200E. These trails serve as an example of the value of trails and connectivity for future developments throughout the North Park area.

Figure 38: Bonneville Shoreline Trail (BST).

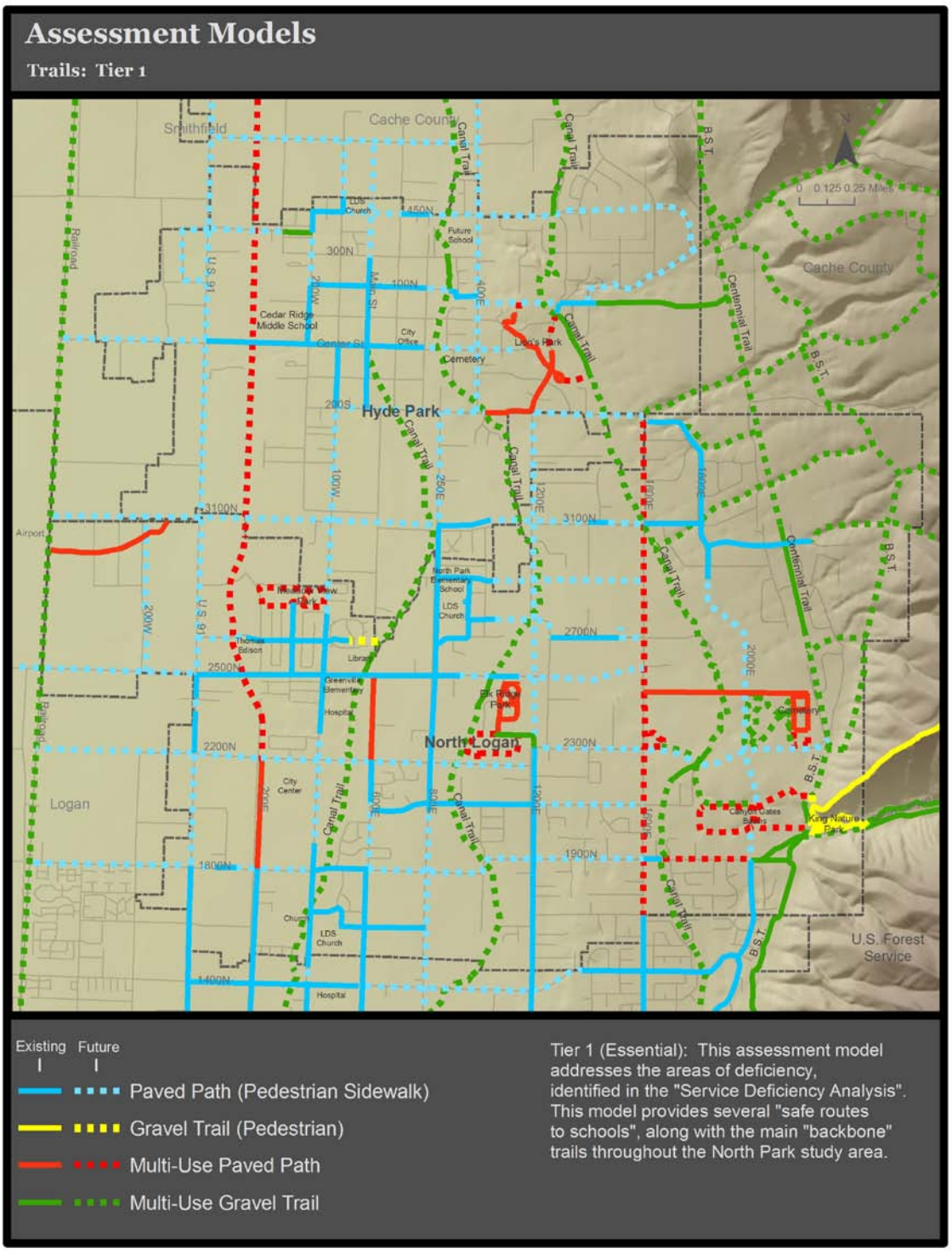


Figure 39: Assessment Models - Trails Tier 1 Map.

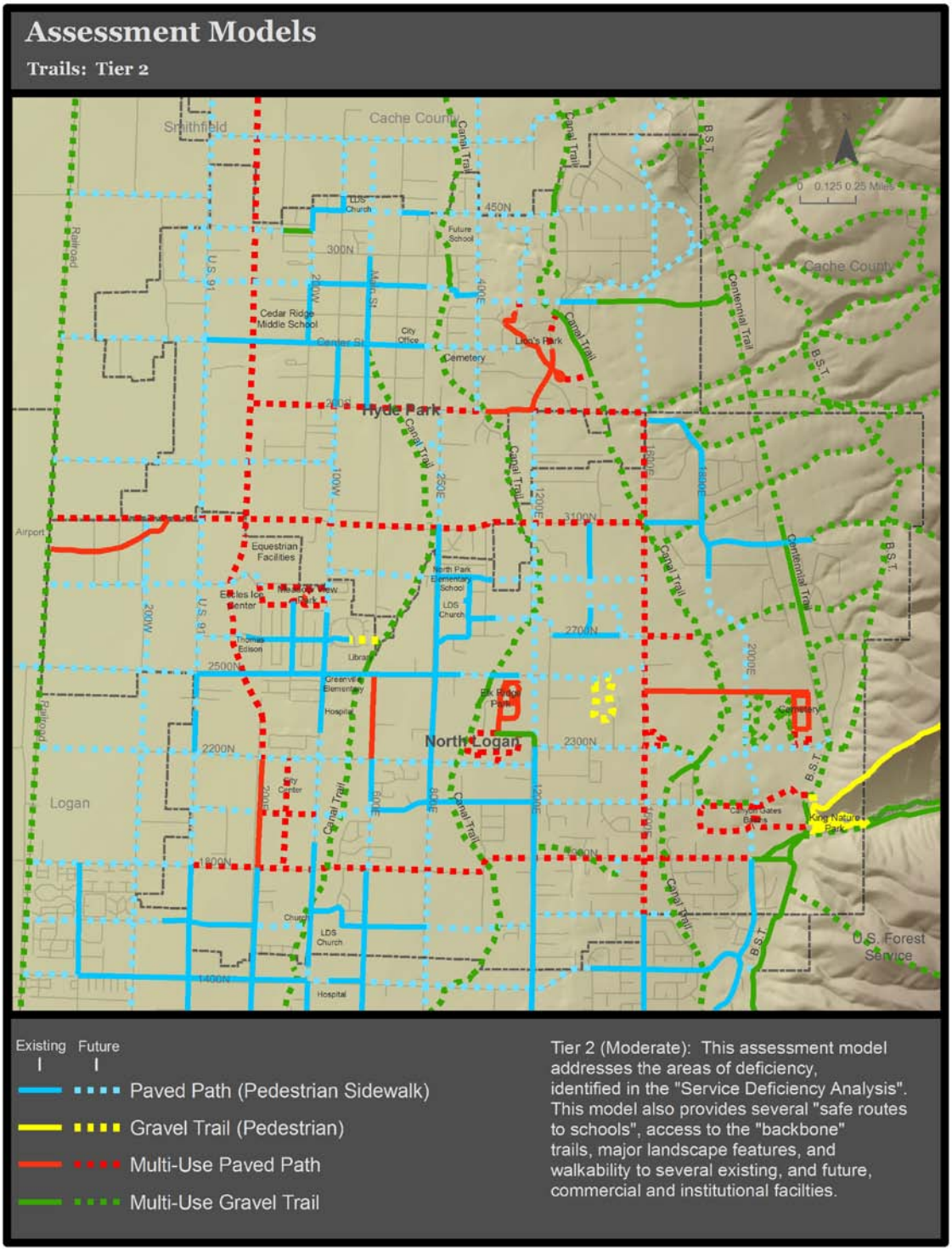


Figure 40: Assessment Models - Trails Tier 2 Map.

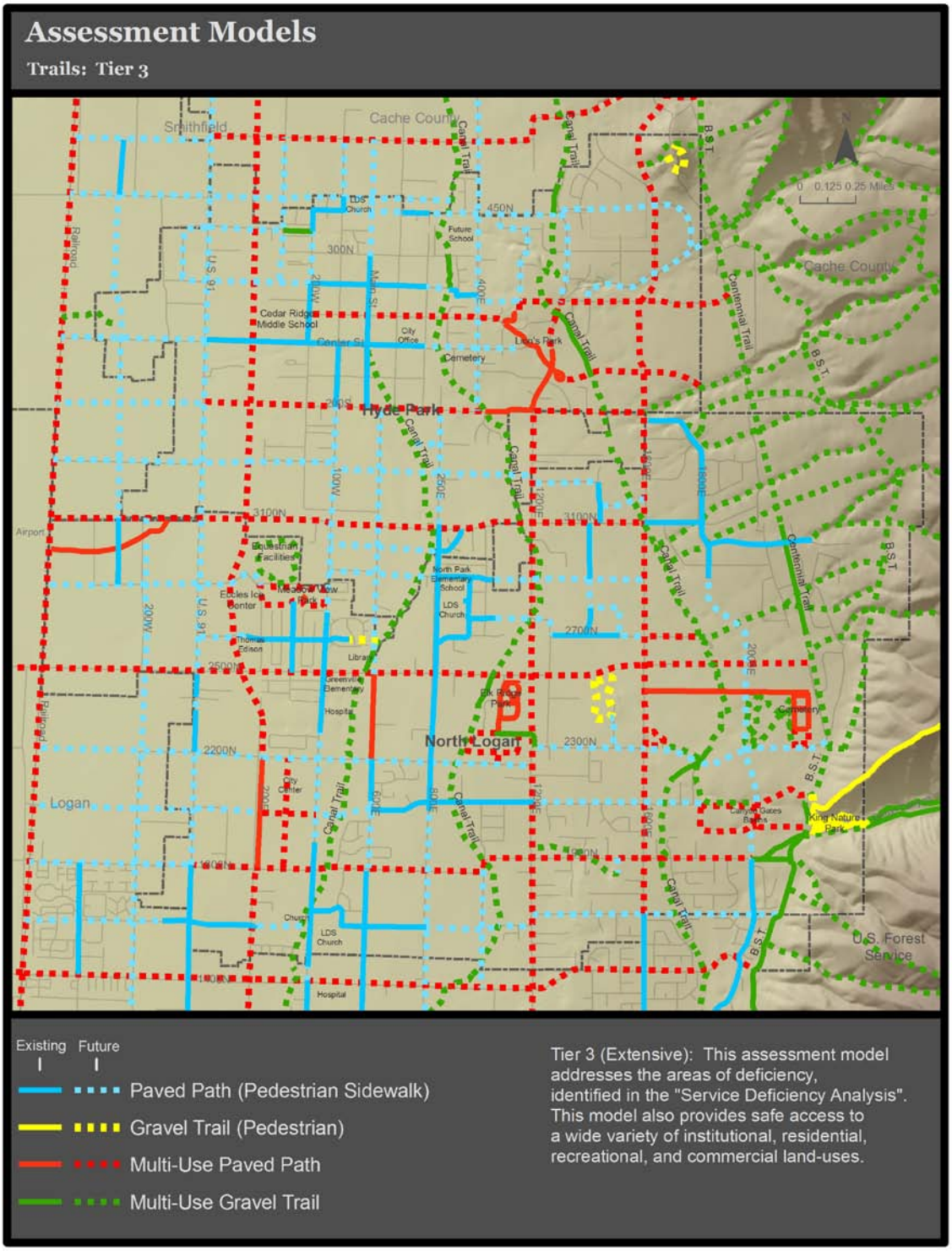


Figure 41: Assessment Models - Trails Tier 3 Map.

Alternative Futures

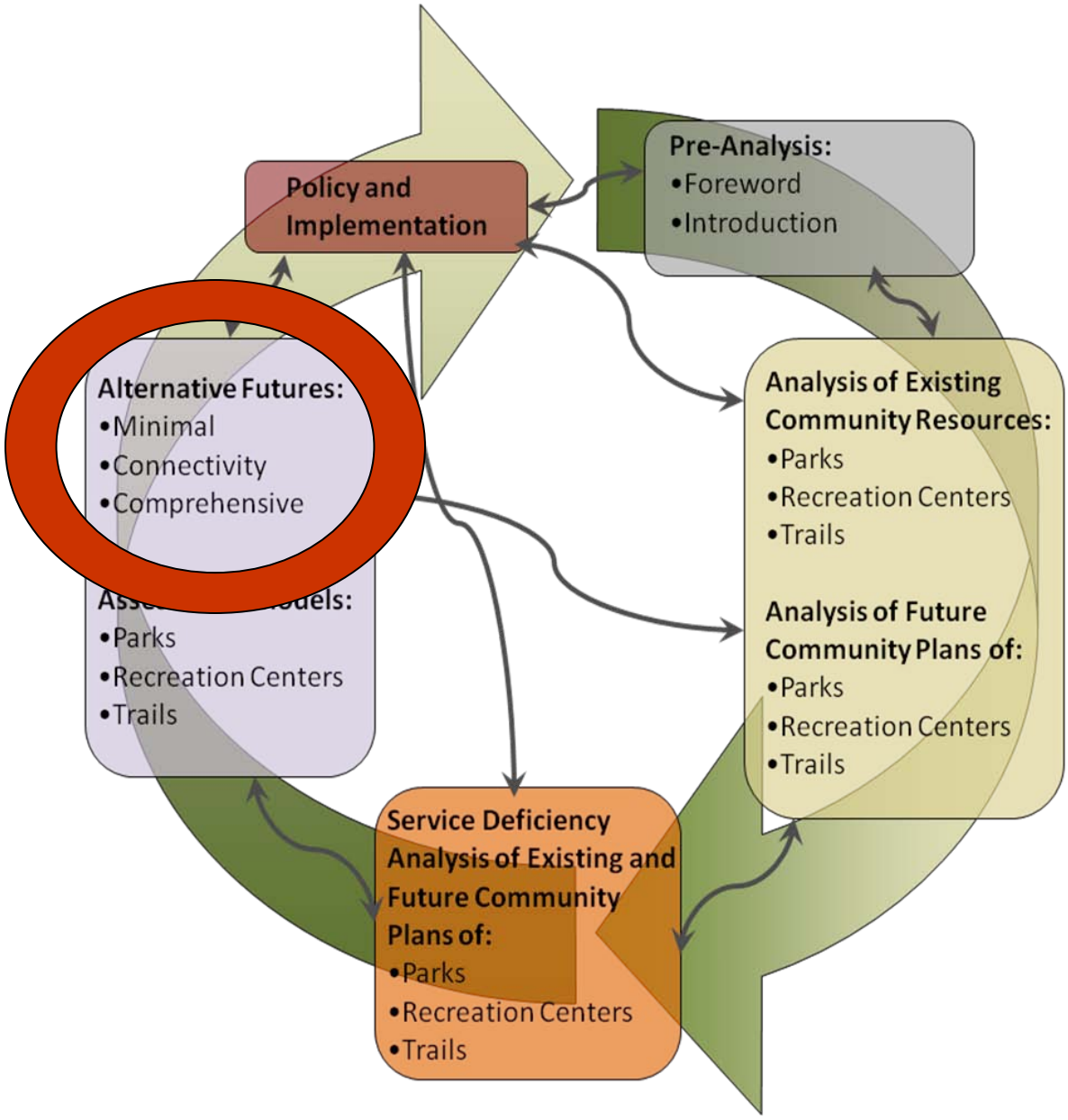


Figure 42: Methodology - Focus on Alternative Futures.

Alternative Futures - Overview

Once the assessment models for each category of parks, recreation centers, and trails have been created, these models may then be used to create alternative futures for the North Park study area. These alternative futures are created by combining different tiers from the assessment models. As a result, local stakeholders may create their own alternative futures to fit the needs of the local community. As community demographics change with growth, local planning leaders will want to modify the parks, recreation centers, and trail plans utilizing different combinations of the tiers that were created in the modeling process. A few examples of how the tiers from each assessment model can be utilized to create an alternative future are included below:

Futures

Minimal: This alternative future combines the tier one assessment models from parks, recreation centers, and trails. This future would provide the highest priority needs relating to parks and recreation center distribution, along with safe access to multiple locations. Consequently, this future would provide the "essential" components of any community parks, recreation, or trails master plan.

Connectivity: This alternative future illustrates the combination of assessment model tiers that cater to the current values of local community officials. For example, this model combines the tier two parks model, the tier one recreation model, and the tier three trails model. The outcome would be more of a moderate parks and recreation center plan that is very well connected. This future would definitely result in a "walkable" community.

Comprehensive: This alternative future combines the tier three assessment models from parks, recreation centers, and trails, and is the most extensive of the three futures. The outcome of this future would be a very walkable community with several opportunities for leisure, sports, fitness, and general recreation. Coincidentally, this future would provide a very high quality of life for the residents of the North Park study area. However, this future would require a very large amount of foresight and cooperation between local land owners, developers, planners, city officials, and local residents of the community.

There are a number of possible scenarios not discussed in this chapter. With three tiers per assessment model, there are several possible futures that could be developed. In addition, the individual parks, recreation centers, and trails from any tier could be added

to any future. Consequently, there are numerous options and possibilities for local planning officials in creating parks, recreation centers, and trails plans that fit the current and future needs of the local residents.

Figure 43: Future Cemetery.

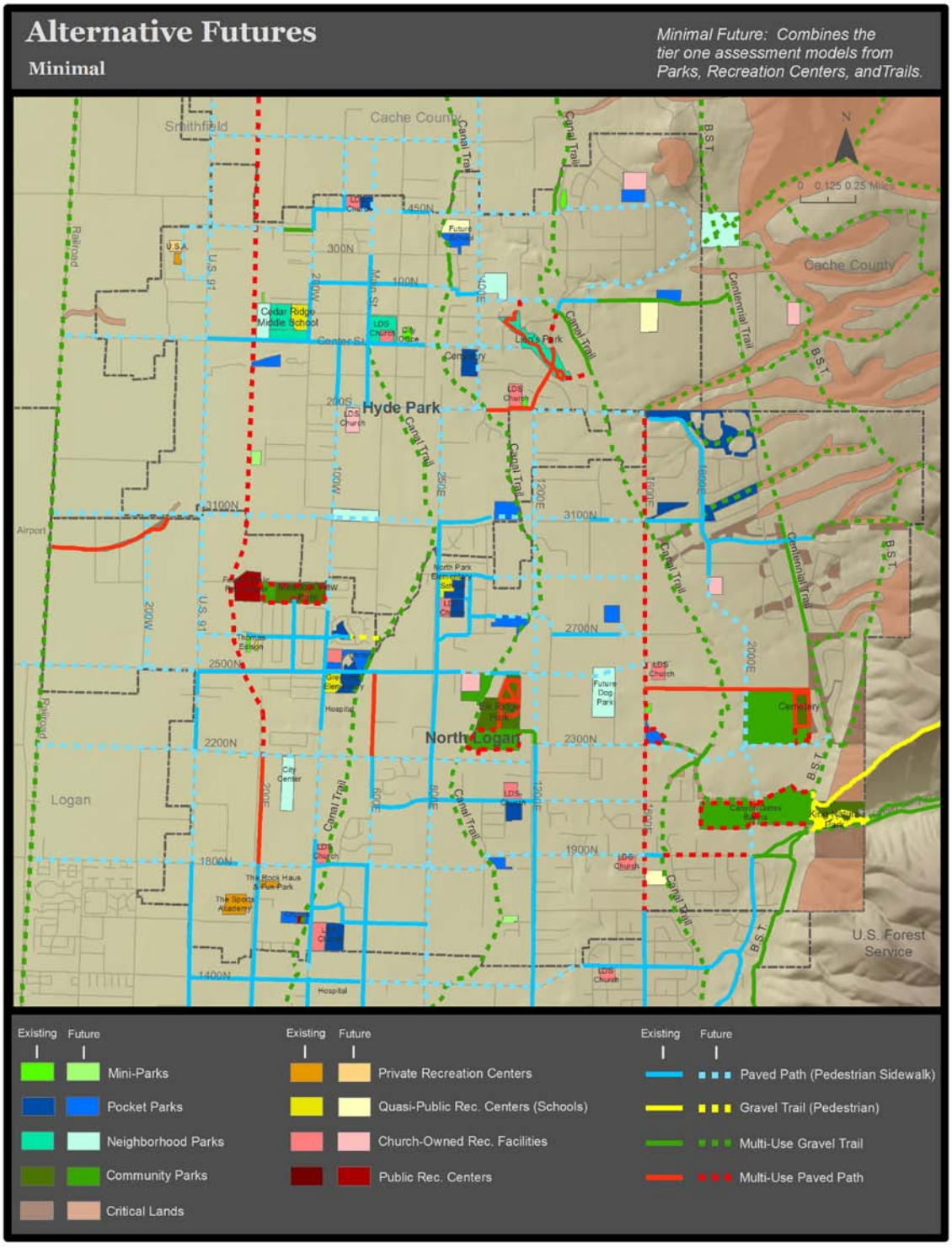


Figure 44: Alternative Futures - Minimal.

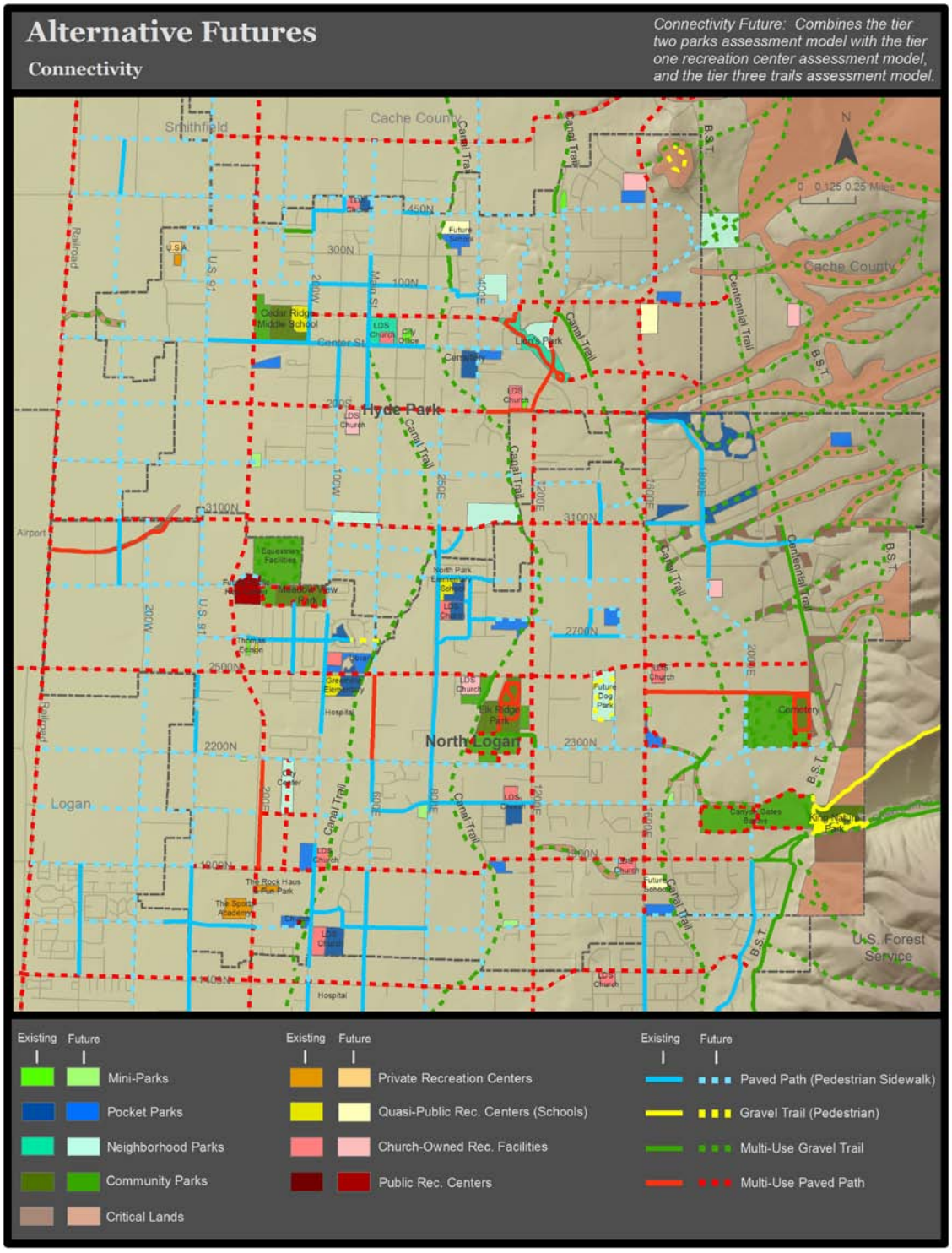


Figure 45: Alternative Futures - Connectivity.

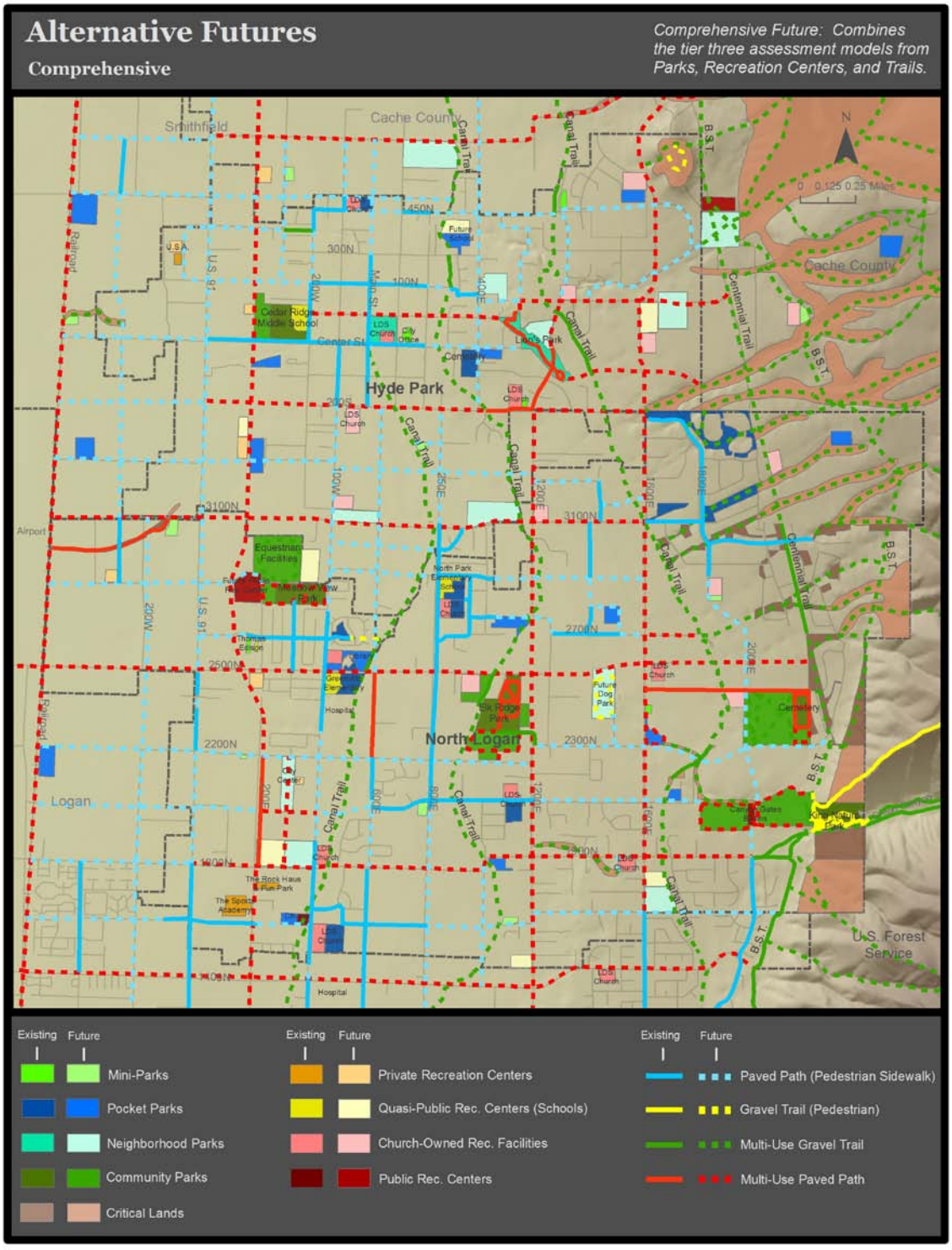


Figure 46: Alternative Futures - Comprehensive.

Conclusions

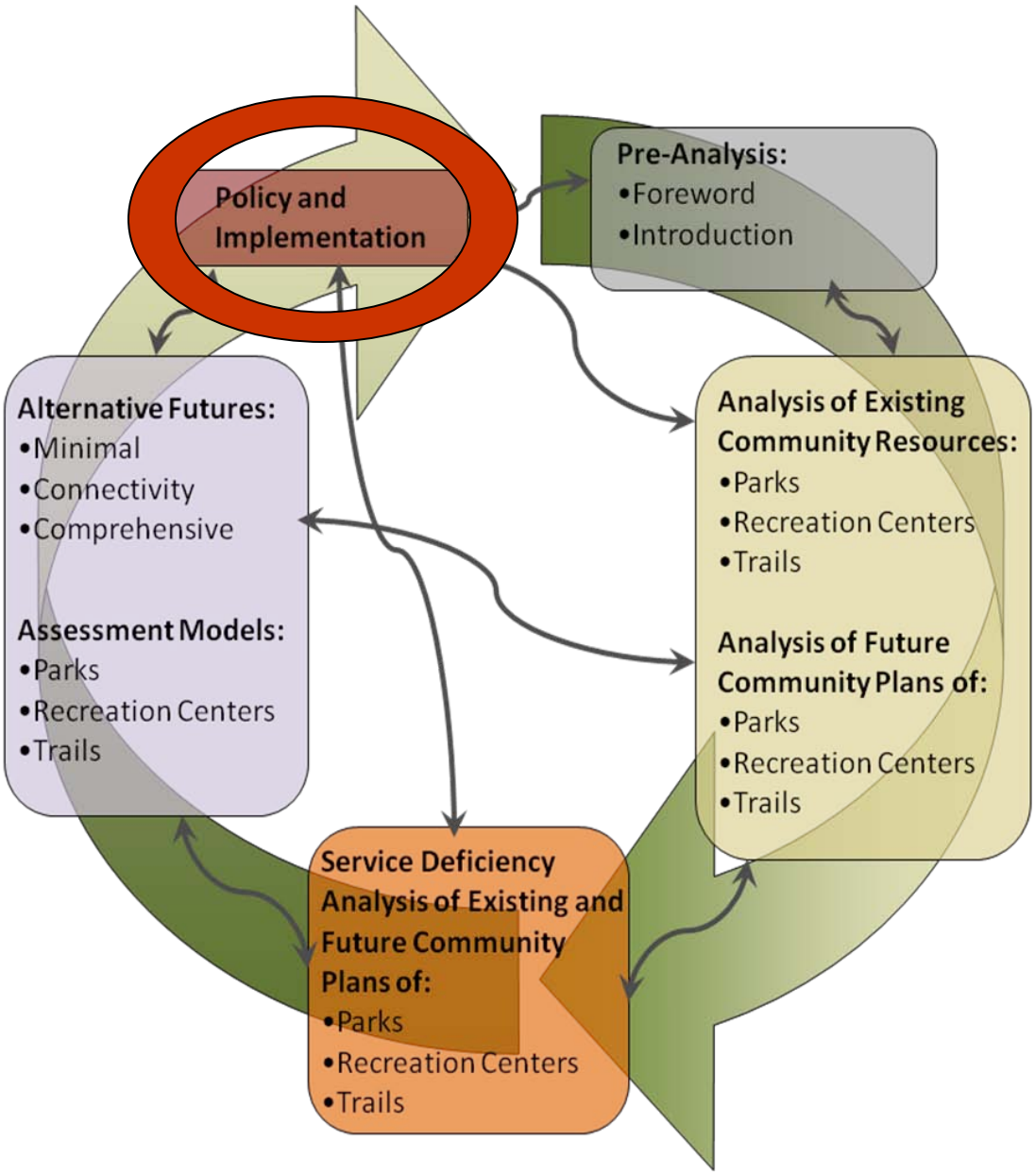


Figure 47: Methodology - Focus on Policy and Implementation.

Policy and Implementation

The North Park study area is a truly scenic region, and a wonderful place to call home for the local residents. Due to the large amount of undeveloped land, there is a vast amount of potential for land-use planning and policy. When addressing community planning, local officials should pay close attention to providing the parks, recreation, and trail needs of the citizens of the community. The planning methods illustrated in this particular study will provide valuable tools and options for future development (Toth et al., 2007).

It should be noted that several parcels of land in this study have been identified as "future" or "planned" parks, recreation centers, or land for trails. While some of these parcels have some form of real property agreement, a substantial portion of the planned parcels are located in general areas that will best serve the residents in close proximity. Consequently, as land use plans and policies are created, these parcels will need to be evaluated on a case-by-case basis. The types of parcels acquired will also depend upon the local demographics and recreation trends of the community.

There are various methods to secure parcels for future parks, recreation centers, and trails. These methods may include land development municipal policies related to density bonuses and parklands donated by developers. These policies will ensure that as land is developed, local mini-parks and pocket parks will be installed according to new growth. In addition, some municipalities require a "park impact fee" for all new development. These fees are designed so that each city will purchase future parkland and trail easements to accommodate the new population. These fees will be used to purchase land that can be developed as neighborhood parks, community parks, easements for trailways, along with local public recreation centers. Local planning officials may also implement new planning measures and work with local developers to encourage the development of private recreation centers in designated zones. This can be done through "mixed-use" planning, and "form-based codes" (see Appendix A).

Land parcels may be purchased and improved as parks, recreation centers, or trails through a wide variety of private, commercial, county, state, and federal grants. Once the parcels have been purchased, the individual recreation features can be installed through sport/activity specific grants. Private donations are another vital method of parcel acquisition and parkland improvement. Local officials should look for ways to encourage donations and recreation based commercial advertising. These methods

will drastically increase the amount of funds that may go towards the addition and improvement of local parks, recreation centers, and trails.

Conclusion

Several communities in close proximity to the North Park study area are much closer to community build-out. These communities are planning for their recreation and leisure needs after the fact. They are forced to purchase less than ideal parcels of land on the far outskirts of development. This method of planning does not support the implementation of a connected network of parks, recreation, and trails. The key to the creation of a walkable community of parks, recreation centers, and trails will depend upon how proactive local planning officials and citizens are in developing master plans with multiple options for growth. With the extensive amount of potential in the North Park study area for parks, recreation, and trails, it will be crucial for the local officials and stakeholders to develop a comprehensive strategic plan to implement the possible future scenarios that have been illustrated in the North Park study. These plans will ensure that current, and future residents of the North Park study area will be able to enjoy the high quality of life that currently exists.

Figure 48: North Park East Bench.

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<http://www.snapforschools.com/Map_view.aspx?EntityID=301>

Cache County Trails Plan (Appendix C)
<cachecounty.org>

Cache Valley Transit District. http://www.cvtdbus.org/

Trails Data (Cache County), Tim Watkins

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Appendix A

Extract from North Logan Developmental Code:

12D-202.3. Method 3: Density-Bonus Subdivisions. Using method three, subdivisions may be divided such that the resulting density for the subdivision is increased if the developer:

- reserves a portion of the development site for public recreational use (park space);
- dedicates the reserved land to the City in such a way that it must continue to be used for recreational purposes and cannot be developed as residences; and
- develops and equips the area for recreational/park use.

The required level of development of the park space to make it useable as a park will be established through a development agreement specific to each subdivision. Density-bonus subdivisions are designed to help the city acquire lands for recreational use as called for in the City's Parks and Recreation General Plan. Densities are allowed to be greater lot than those established by the base zone under subdivision methods one or two, in return for park space. The residential density within a subdivision may be increased as per Table 3. The percent increase in density allowable within a subdivision (the increase above and beyond the ratio allowed under Subdivision Method Two), may be no more than the ratio of land dedicated to parks for the subdivision, up to the maximum allowed for the particular zone in which the subdivision is located.

(1) Density Bonus. If this method of subdivision is used, the development provides a percentage of the land being developed for usable public park space.

(a) A higher ratio of lots per acre will be permitted in exchange for land dedicated for park space.

(b) Lands defined by this ordinance as Non-Buildable, may not count towards the amount of park space required for the development.

(c) The total number of lots allowed within a development shall be based on the following table and the percentage of land dedicated to public parks. These ratios are computed as the maximum number of lots that can fit in a parcel of land at the minimum lot size after dedicating the maximum allowed land for parks while still allowing space for roads and other improvements. The base allowed density for the density bonus method is the same ratio used in the method two subdivision option. "Number of lots" is synonymous with "number of dwelling units" in R-1-XX and RE-X zones.

Table 3

Zone	Base Allowed Density in Lots / ac.	Maximum Allowed Density in Lots / ac.	Minimum Percent of Park Land	Maximum Density in sq. ft./Lot
RE-1	0.90	1.21	34%	20,200
RE-2	0.45	0.60	34%	40,400
RE-5	0.18	0.24	34%	101,000
R-1-30	1.28	1.60	25%	17,100
R-1-20	1.92	2.40	25%	11,400
R-1-15	2.47	3.09	25%	8,400
R-1-12	3.09	3.86	25%	6,700
R-1-10	This option not available in this zone			
RB	Density and lot size shall conform to adjacent zone (See Modifying Regulations 12C-1004(G))			

(d) The following formula shall be used to determine the allowed number of lots within a development:

Parcel size in developable acres * [Base Allowed Density in lots per acre from above table * (1+ percent of park land dedicated, up to maximum percent allowed)] = Maximum lots

Example for 20 acre parcel with 25 percent dedicated park land in an RE-1 Zone:

20 acres * [0.90 * (1.00 + 0.25)] = 22.5 lots allowed in project (round up to 23 lots)

Five acres dedicated to park land.

Example for 20 acre parcel with 9 percent dedicated park land in an R-1-12 Zone:

20 acres * [3.09 * (1.00 + 0.09)] = 67.4 lots allowed in project (67 lots with no rounding)

1.8 acres dedicated to park land

(ii) Rounding. If the number of lots computed by the formula results in a fraction of a lot it may be rounded to the nearest whole number of lots. Results ending in exactly .5 will be rounded up.

(2) Minimum lot Size. Regardless of the amount of open space desired to be given up or required to be provided due to land characteristics, a subdivision may not have smaller lots than is allowed by the minimum lot size in Table 1.

(3) Building Lot Requirements. Development under the provisions of this method shall be subject to all regulations of the "Design Standards Technical Manual" of the City of North Logan, the subdivision ordinance and other applicable ordinances and regulations, which govern development activities within the city.

(4) Area, width, and yard requirements. Minimum lot area, width, and yard requirements for density bonus subdivisions shall be the following:

Width	Set backs (in feet)			
Zone	in Feet	Front	Side &Total	Rear
RE-1	100	30	15 & 35	30
RE-2	100	50	15 & 35	30
RE-5	100	50	15 & 35	30
R-1-30	90	30	10 & 25	30
R-1-20	80	30	10 & 24	30
R-1-15	80	30	10 & 24	30
R-1-12	80	30	10 & 24	30
R-1-10	This option not available in this zone			
RB	Width, and setbacks shall conform to the adjacent zone (See Modifying Regulations 12C-1004(G))			

(5) Stormwater Management: Where possible, the development should be designed such that the dedicated portion of the development also functions as part of the stormwater and drainage requirement needs for the development.

(Ord. 07-03, Ord. 06-20)

12D-203. Reserved

12D-204. Open Space. The approved uses and restrictions for any designated open space shall appear by note on the Final Plat. At no time shall any designated open space be reduced in size or changed in use from the uses or restrictions specified in the approved Development Plan and the conditions of its approval without a public hearing and the approval of the City Council.

(1) Conditional Uses within Open Space. All uses and facilities in open space shall be permitted only by conditional use permit, issued pursuant to the provisions of the City's Land Use Ordinance. Conditional uses in Open Space are subject to approval and conditions as required by the Planning Commission. Allowed uses are limited to the following:

(a) public and private parks and recreation areas which may also include outdoor playgrounds, picnic tables and pavilions (covered but not enclosed), and restrooms;
(b) athletic fields, tennis courts, and swimming pools which may include restrooms and changing areas;
(c) equestrian facilities which may include the keeping of horses with associated fences and corrals (covered or not) but not enclosed facilities such as storage barns, riding arenas, or enclosed stables;
(d) agricultural crop production compatible with adjacent residential development;
(e) trails;
(f) other uses which are determined by the City Council to be similar to and compatible with the above stated uses and the nature of the open space relative to the surrounding neighborhood.

(Ord. 06-07)

(2) Prohibited Uses in Open Space. Prohibited uses in open space include storage of rubble and trash, or any other use not consistent with the approved conditional uses, uses provided for in the final plat, ancillary agreement(s) and/or conservation easement.

(3) Access to Public Street. All open space shall contain an ingress / egress access to a public street. The access need not be open to the public (see subparagraph (4)(e) below.) Ingress / egress shall be a minimum of fifteen (15) feet in width.

(4) Ownership, Maintenance, and Restrictions

(a) Types of Ownership Allowed in Public Open Space. Public open space may be owned, managed, administered, and maintained by the City of North Logan, or a recognized land trust or conservancy, or any other entity approved by the City Council.

(b) Types of Ownership Allowed in Private Open Space. Private open space may be owned, managed, administered, and maintained like any other privately owned real property but its use is restricted and limited based on the agreements under which it was designated open space and as modified in accordance with this section (12D-204). Designated Open Space may only be further divided if

approved by the City Council and following a public hearing. The dividing of open space where no additional developable lots are established does not constitute a subdivision as defined in this Section (NLC Code Title 12D). Any transfer of ownership or dividing of private open space shall not alter the restrictions associated with that open space.

(c) Leasing of Open Space. The owner of any Open Space may lease the property to any other qualified person or corporation for operation and maintenance of the open space, provided that any such lease agreement shall provide that the open space to be leased shall be maintained for the purpose set forth in this ordinance. The lease shall be subject to the approval of the City Council and any transfer or assignment of the lease shall be further subject to the approval of the City Council. Each lease agreement shall be recorded with the City Recorder within thirty (30) days of its execution and a copy of the recorded lease shall be filed with the City.

(d) Transfer of Ownership of Private Open Space to Public Open Space. With the permission of the City and in compliance with Section 12D-204., an owner of private open space may transfer that open space and the associated development rights or conservation easements to

- a government entity or
- a private, non-profit organization among whose purposes it is to conserve open space

provided that:

(i) the new owner is acceptable to the City of North Logan, and is a bona fide government entity or organization with perpetual existence;

(ii) the conveyance contains appropriate provision for proper reverter or re-transfer in the event that the organization becomes unwilling or unable to continue carrying out its functions;

(iii) a maintenance agreement acceptable to the City is entered into by the new owner; and

(iv) the owner and developer provide a copy of the transfer of title agreement that contains the following to the city: the conservation organization or agency to obtain the property, showing the legal description, conservation purpose, terms of the agreement, grantee of the agreement and date for finalizing the agreement.

(e) Access by Public. Public Open Space shall normally be open to public access unless restricted for some reason such as to ensure the protection of health and

safety of the public or to maintain the area for some conservation purposes. Any publicly owned open space with restricted public access shall be posted to indicate such. Privately Owned Open Space need not be open to public access subject to easements and/or other agreed upon access.

Appendix B

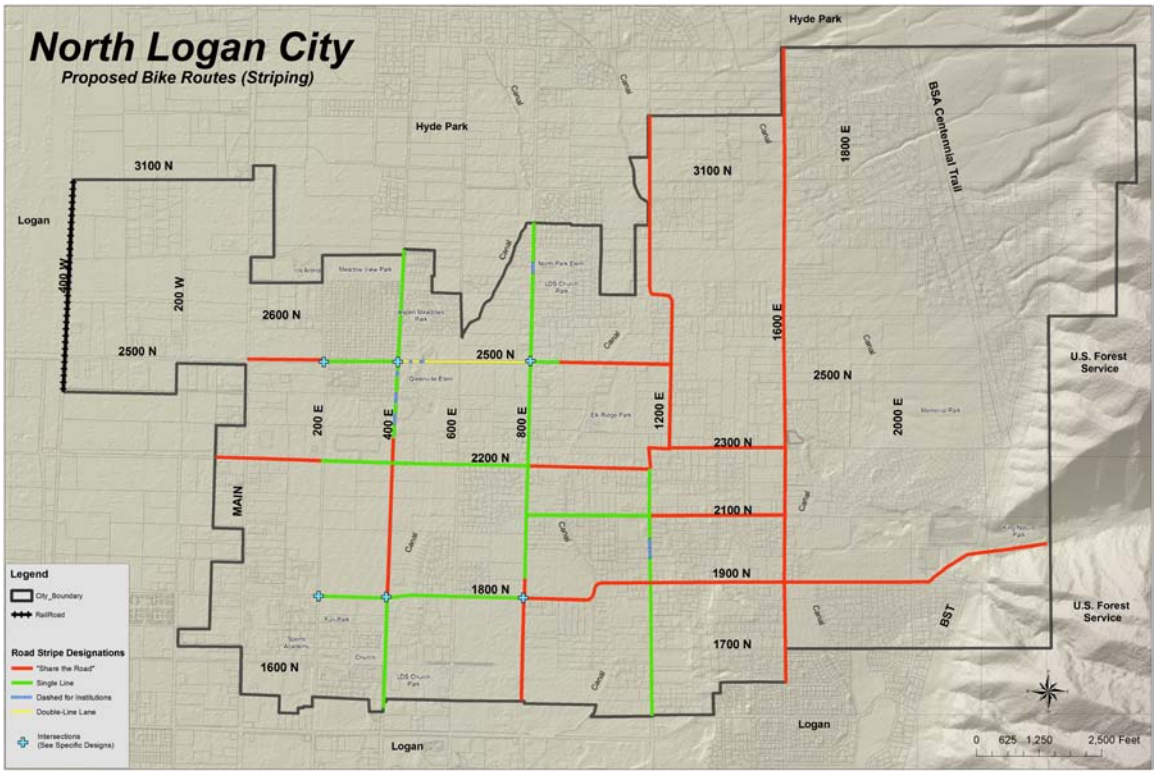
North Logan Bike Lane Design:

Each municipality should make additional efforts to connect the various trail routes to a bike lane plan for each street. The following map illustrates the existing dedicated street bike routes in North Logan City. Each road, depending on the constraints of width, maintains a different striping plan. There are basically three designated bike lane striping methods utilized by North Logan City.

Share the Road: This route is designated with a "share the road" symbol. There is relatively no striping with this method, and it encourages the drivers and bicycle riders to be aware of each other.

Single Line: These routes generally have a single stripe 5-10 ft. from the curb or shoulder. The bike routes are basically designated along the shoulders of each road.

Double Line Lane: These routes are designated 3-4 ft. wide striped lanes within traffic. These lanes are dedicated to bicycle traffic.



Appendix C: Cache County Trail and Bicycle Routes